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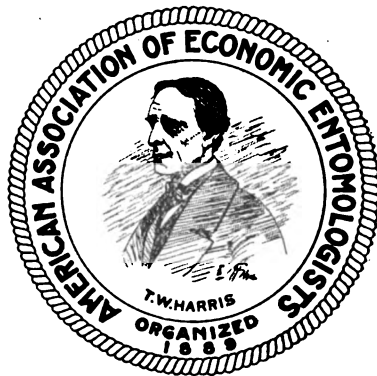
Special Publication 1

U.S. Department of Agriculture, Bureau of Entomology

**INDEX
= TO THE
LITERATURE
OF
AMERICAN ECONOMIC
ENTOMOLOGY**

January 1, 1905 to December 31, 1914

Compiled by
NATHAN BANKS



AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS.

MELROSE HIGHLANDS, MASS.

1917

INTRODUCTORY

The great need of bringing the Bibliography of American Economic Entomology down to date was considered at the Cleveland meeting in 1913. A special committee was appointed and drafted resolutions urging the Secretary of Agriculture to continue this exceedingly useful publication. As this proved impracticable, the President appointed a special committee consisting of W. E. Britton, E. P. Felt and J. J. Davis to formulate and submit a plan the following December. This was done; the plan duly accepted and the following were then appointed to have charge of the work: Messrs. E. P. Felt, W. E. Britton, W. E. Hinds, W. C. O'Kane and A. F. Burgess, a committee which continued in charge until the completed index was put into the hands of the Editorial Board of the *Journal of Economic Entomology*. The committee arranged with Dr. L. O. Howard, Chief of the Federal Bureau of Entomology, for the compilation of the Index, submitted progress reports in December 1914 and 1915 and after exhausting every reasonable possibility of securing the publication of the work through a government agency, prepared a third report which was favorably acted upon in December 1916, authorizing its publication by the Journal Board. It is perhaps unnecessary to add that much of the success of the work, projected as it is along new lines, is due to the untiring patience and devotion of the compiler, Dr. Nathan Banks, then connected with the United States Bureau of Entomology.

E. P. FELT,
W. E. BRITTON,
W. E. HINDS,
W. C. O'KANE,
A. F. BURGESS,
Committee.

INDEX TO THE LITERATURE OF AMERICAN ECONOMIC ENTOMOLOGY
JANUARY 1, 1905, TO DECEMBER 31, 1914

By NATHAN BANKS

The following Index to the literature of American Economic Entomology for the ten-year period from January 1, 1905 to December 31, 1914, is a continuation of the Bibliography of Economic Entomology. It has been recognized for some time that an Index on the following plan would contain all that was most useful in the Bibliography and besides would furnish the page references, and be more readily usable and occupy less space than the Bibliography. The insects and other headings are arranged alphabetically; under each are placed the references by author alphabetically. The several articles by one author are arranged chronologically. Unsigned articles are placed after the other references.

The amount of entomological literature has increased enormously in the last ten years, more especially in the agricultural press. Much of this is but a reprint of Station and Federal bulletins; and when plainly so has not been indexed. It is, however, impracticable to examine each article thoroughly to see whether it contains new matter, so doubtless various references may duplicate others, and on the other hand it is probable that some references have been omitted that should have been included. It is also probable that various references have escaped notice of the compiler.

The references (following a recommendation of a committee of the American Association of Economic Entomologists) are rather more abbreviated than usual; but will be readily understood by entomologists, at least with the following explanations:

"B." means bulletin, "C.," circular, "R.," report, "P. B.," press bulletin. Publications of experiment stations are referred to simply by State and number of bulletin, circular or report, as "Fla. B. 42" means Bulletin 42 of the Florida Agricultural Experiment Station. In New York, the Cornell bulletins are referred to as "N. Y. C. B."; the Geneva Station bulletins as "N. Y. St. B." The bulletins of the Bureau of Entomology, United States Department of Agriculture are referred to as "U. S. B."; the yearbook articles as "U. S. Y. B."; the Farmers' Bulletins as "U. S. F. B."; the more recent bulletins of this Department as "U. S. D. A. B."; the Gipsy and Brown-tail Moth Reports are "G. & B.-T. R."

"Pr." is used for Proceedings, "Jr." or "J." for Journal. The words "State" and "Annual" are usually omitted in the references, although in a few cases "St." (State) is retained because of possible confusion. The first figure after the "B." or "R." indicates the number of the bulletin or report and the next figure the page; the year is usually added, for it is oftentimes a help.

The preparation of the Index has been greatly facilitated by the aid of two typewriters, Mrs. Harriet Bishop and particularly by Miss M. G. Champney, whose knowledge of entomology and of the methods of the Bureau has been of especial value during the entire time of preparation.

LIST OF ABBREVIATIONS

The list of abbreviations given below is supplementary to the preceding explanations:

Agr. = Agriculture, Agriculturist	Farm. = Farmer
Agric. = Agriculturist, Agricultural	Fed. = Federal
Am. or Amer. = American	For. = Forestry
Ann. = Annals, Annual	Fr. = Fruit
App. = Appendix	Fum. = Fumigation
Archiv. = Archives	Fung. = Fungicide
Assoc. = Association	G. & B. T. = Gipsy and Brown Tail
B. = Bulletin	Gard. = Gardening, Gardeners
B. C. = British Columbia	Gaz. = Gazette
Bd. = Board	Gen. = General
Bien. = Biennial	Gentl. = Gentleman
Bio. or Biol. = Biological	Geog. = Geographic
Bost. = Boston	Grow. = Grower
Br. = Branch	Hort. = Horticulture, Horticulturist
Bu. or Bur. = Bureau	Hosp. = Hospital
Bull. = Bulletin	Hyg. = Hygiene
C. = Circular	Infect. = Infectious
C. when after N. Y. = Cornell	Inform. = Information
C. Gentl. = Country Gentleman	Inj. = Injurious
Calif. = California	Ins. = Insects, Insecticide
Can. = Canada	Insect. = Insecticide
Clem. = Clemson	Insp. = Inspection
Col. = Colmans	Intern. = International
Coll. = College	Interst. = Interstate
Comm. = Commission	J., Jr. or Jour. = Journal
Confer. = Conference	L. I. = Long Island
Cong. = Congress	Lab. = Laboratory
Contr. = Contribution	Lumberm. = Lumberman
Conv. = Convention	Mag. = Magazine
Cran. or Cranb. = Cranberry	Man. = Manual
Cult. = Cultivator	Med. = Medicine
Cut. or Cutan. = Cutaneous	Meet. = Meeting
D. A. = Department Agriculture	Mem. = Memoir
Dept. = Department	Milit. = Military
Dermat. = Dermatology	Mill. = Miller
Destr. = Destructive	Mod. = Modern
Dis. = Diseases	Month. = Monthly
Dom. = Dominion	Mort. = Mortality
Ec. = Economic	Mosq. = Mosquito
Econ. = Economics	Mus. = Museum
Educ. = Education	N. Eng. = New England
Eng. = Engineering	N. Orl. = New Orleans
Ent. = Entomology, Entomologist	Nat. = Naturalist
Exch. = Exchange	Nat'l = National
Exp. = Experimental	Northw. = Northwestern
Exterm. = Extermination	Not. = Notices

Nurs. = Nursery	South. = Southern
O. = Ohio	Sp. = Special
Off. = Office	St. = State
Ont. = Ontario	Sta. = Station
Or. = Orange	Statis. = Statistical
Orch. = Orchard	Stockm. = Stockman
Ott. = Ottawa	Suppl. = Supplement
P. B. = Press Bulletin	Suppr. = Suppression
Pac. = Pacific	Supt. = Superintendent
Path. = Pathological	Surg. = Surgeon
Plant. = Planter	S. W. = Southwestern
Poly. = Polytechnic	Syn. = Synopsis
Pom. = Pomological	Techn. = Technical
Pom. with Ent. = Pomona	Tr. or Trans. = Transactions
Pop. = Popular	Trop. = Tropical
Prai. = Prairie	Univ. = University
Prevent. = Preventive	U. S. B. = Bulletin U. S. Bureau Entomol- ogy
Prod. = Producers	U. S. C. = Circular U. S. Bureau Entomol- ogy
Prog. = Progressive	U. S. D. A. B. = Bulletin U. S. Dept. Agriculture
Pub. = Public	U. S. F. B. = U. S. Dept. Agric. Farmers Bulletin
Public. = Publication	U. S. B. An. I. = U. S. Bureau Animal In- dustry
Quar. or Quart. = Quarterly	U. S. Y. B. = Yearbook U. S. Dept. Agriculture
R. = Report	Veg. = Vegetation
Rec. = Record	Vet. or Veter. = Veterinary
Rev. = Review	West. = Western
Roy. = Royal	Zoöl. = Zoölogy
Rur. = Rural	
S. = South	
Sci. = Science	
Sec'y. = Secretary	
Serv. = Service	
Sess. = Session	
Soc. = Society	

AMERICAN ECONOMIC ENTOMOLOGY

INDEX OF LITERATURE 1905-1914

BY NATHAN BANKS

- Abbot's sphinx**, *see* *Sphecodina abbotii*
- Abbot's white-pine sawfly**, *see* *Lophyrus abbotii*
- Abia inflata**
Felt, N. Y. R. 27, 114, 1912.
- Ablerus clisiocampae**
Marlatt, U. S. B. 62, 61, 1906.
Hayhurst, Ark. B. 107, 376, 1911.
Quaintance, U. S. C. 124, 10, 1910.
Zimmer, U. S. B. 97, 119, 1912.
- Ablerus sp. on grape scale**
Zimmer, U. S. B. 97, 119, 1912.
- Acanthia lectularia**, *see* *Cimex*
- Acanthocephala femorata**
Morrill, U. S. B. 86, 91, 1910.
- Acanthocinus obsoletus**
Felt, N. Y. St. Mus. Mem. 8, 662, 1906.
- Acanthocoris musculus**
Titus, Utah B. 110, 50, 1910.
- Acanthoderes decipiens**
Felt, N. Y. St. Mus. Mem. 8, 473, 1906.
- Acanthoscelides obtectus**, *see* *Bruchus*
- Acariasis**
Stiles, Osler's Mod. Med., I, 626, 1907.
- Acetylene**
Britton, Conn. R. 8, 798, 1909.
- Achaetoneura frenchi**, *see* *Frontina*
- Achatodes zeae**
Forbes, Ill. Ent. R. 23, 83, 1905.
Johannsen, Me. B. 177, 23, 1910.
- Achemon sphinx**, *see* *Pholus achemon*
- Acholla multispinosa**
Felt, N. Y. St. Mus. Mem. 8, 613, 1906.
- Achorutes armatum**
Popenoe, U. S. C. 155, 6, 1912.
- Achorutes nivicola**
Herrick, Household Ins. 376, 1914.
- Achrastenus griseus**
U. S. Y. B., 1905, 632.
- Acidia fratria**
Chittenden, Ins. Inj. Veg. 184, 1907.
Chittenden, U. S. B. 82, 9, 1909.
- Aclerda californica**
Carnes, Cal. Hort. Comm. Bien. R. 2, 194, 1907.
- Acleris minuta**
Dean & Peairs, Kans. Agr. Educ. VI, 2, 128, 1913.
Franklin, Mass. B. 115, 13, 1907.
Franklin, Mass. B. 126, 7, 1908.
Franklin, J. Ec. Ent. II, 46, 1909.
Gossard, Ohio B. 198, 43, 1908.
Hardenburg, Wis. Cranb. Grow. Assoc., 20th Meet., 4, 1907.
Hardenburg, Wis. B. 159, 11, 1908.
Hardenburg & Malde, Wis. R. 24, 310, 1907.
Haseman, Mo. Hort. Soc., 1911, 243.
Herrick, Rur. N. Y., 1912, 263.
Moore, Wis. B. 190, 19, 1910.
Munson, Me. Dept. Agr. Quart. B., vol. IV, 1, 15, 1905.
O'Kane, Ins. 300, 306, 1914.
Patch, Me. B. 134, 220, 1906.
Peltier, Wis. Cranb. Grow. Assoc., 25th Ann. Meet., 10, 1912.
Slingerland & Crosby, Man. Fr. Ins. 59, 462, 1914.
Smith, N. J. R., 1905, 563.
Webster, J. Ec. Ent. II, 211, 1909.
Webster, J. Ec. Ent. III, 504, 1910.
- Acmaeodera pulchella**
Burke, U. S. Y. B., 1909, 406.
- Acordulecera maura**
Herrick & Harned, J. Ec. Ent. II, 293, 1909.
- Acraspis erinacei**
Felt, N. Y. St. Mus. Mem. 8, 627, 1906.
- Acrobasis caryae**
Britton, J. Ec. Ent. VI, 198, 1913.
Kirk, Conn. R. 12, 253, 1913.
- Acrobasis feltella**
Felt, N. Y. R. 25, 71, 1910.

- Acrobasis nebulella**
 Chittenden, Nut. Grow., Jan. 1906, 108.
 Gossard, Fla. B. 79, 292, 1905.
 Herrick, Tex. B. 124, 4, 1909.
 Williams, Ala. Poly. B. 155, 47, 1911.
 Worsham, Ga. Bd. Ent. B. 33, 119, 1910.
 Worsham, Ga. Hort. Soc., 1910, 119.
- Acrobasis rubifasciella**
 Johannsen, Me. B. 177, 22, 1910.
 Patch, Me. B. 162, 356, 1908.
- Acrobasis sp.**
 Barre & Conradi, S. C. B. 141, 45, 1909.
 Britton, Rur. N. Y., 1913, 422.
- Acrobasis vaccinii, see Mineola**
- Acronycta, see Apatela**
- Actia pilipennis**
 Felt, N. Y. R. 27, 100, 1912.
- Adalia bipunctata**
 Britton, Conn. B. 181, 17, 1914.
 Burgess & Collins, U. S. Y. B., '11, 454.
 Davidson, U. S. D. A. B. 100, 38, 1914.
 Felt, N. Y. R. 25, 86, 1910.
 Felt, N. Y. R. 28, 106, 1913.
 Herrick, J. Ec. Ent. IV, 222, 1911.
 Herrick & Hungate, N. Y. C. B. 300, 1911, 736.
 Howard, U. S. R. Ent., 1906, 12.
 Johnson, Ent. News, 1907, 173.
 Patch, Me. B. 147, 248, 1907.
 Symons, Md. B. 101, 196, 1905.
 Weiss, J. Ec. Ent. VI, 408, 1913.
- Adalia humeralis**
 Britton, Conn. B. 181, 18, 1914.
 Davidson, U. S. D. A. B. 100, 38, 1914.
 Essig, Cal. Hort. B. II, 1-2, 206, 1913.
- Adalia melanopleura**
 Davidson, U. S. D. A. B. 100, 39, 1914.
- Adelencyrtus sp.**
 Young, Pr. Columbus Hort. Soc., '06, 76.
- Adelges abieticolens**
 Smith, N. J. R. 378, 1909.
- Adimonia cavicollis**
 ——— U. S. Y. B., 1907, 547.
- Adisternia watsoni**
 Webster, Pr. Ent. Soc. Wash. X, 3, 1908.
- Admontia pergandei**
 Hyslop, U. S. B. 85, 128, 1910.
- Adoxus obscurus**
 Branigan, Cal. Hort. B. II, 7, 585, 1913.
 Ehrhorn, Pac. Rur. Press, LXXVI, 404, 1908.
 Essig, Cal. Hort. B. II, 1-2, 225, 1913.
- Johnson & Hammar, U. S. B. 89, 15, '10.
 Quayle, Cal. B. 195, 1908.
 Quayle, J. Ec. Ent. I, 175, 1908.
 Slingerland & Crosby, Man. Fr. Ins. 451, 1914.
- Adoxus vitis**
 Isaac, Cal. Cult. XXV, 30, 1905.
 Quayle, J. Ec. Ent. I, 175, 1908.
 Quayle, Pac. Rur. Press, LXXXIII, 607, 1912.
 Sanderson, Ins. Pests, 504, 1912.
 ——— U. S. Y. B., 1907, 547.
- Aedes calopus, see Stegomyia**
- Aedes sollicitans, see Culex**
- Aegeria apiformis**
 Felt, N. Y. St. Mus. Mem. 8, 472, 1906.
- Aegeria exitiosa, see Sanninoidea**
- Aegeria pictipes, see Synanthedon**
- Aegeria tibialis**
 Felt, N. Y. St. Mus. Mem. 8, 472, 1906.
- Aegeria tipuliformis, see Sesia**
- Aenoplegimorpha phytonomi**
 Webster, U. S. B. 112, 34, 1912.
- Aenoplex sp. on codling moth**
 Doten, Nev. B. 66, 36, 1908.
- Aeoloplus regalis**
 Bruner, U. S. B. 54, 61, 1905.
- Aeolothrips bicolor**
 Hooker, U. S. B. 65, 13, 1907.
- Aeolothrips fasciatus**
 Russell, U. S. B. 118, 42, 1912.
- Agallia bigeloviae**
 Ball, U. S. B. 66, 51, 1909.
- Agallia cinerea**
 Ball, U. S. B. 66, 51, 1909.
- Agallia quadripunctata**
 Ball, U. S. B. 66, 51, 1909.
- Agallia sanguinolenta**
 Ball, U. S. B. 66, 51, 1909.
 Osborn, U. S. B. 108, 103, 1912.
 Pettit, Mich. B. 258, 282, 1910.
 ——— U. S. Y. B., 1907, 543.
- Agathis vulgaris**
 Paddock, J. Ec. Ent. V, 442, 1912.
- Agelastica alni**
 Britton, Conn. R. 12, 292, 1913.
- Agonoderus pallipes**
 Forbes, Ill. Ent. R. 23, 178, 1905.
 Pettit, Mich. B. 233, 199, 1906.
 Swenk, Nebr. Bd. Agr. R. f., 1909, 244.
 Swenk, Nebr. Bd. Agr. R. f. 1910, 366.
 Washburn, U. S. B. 67, 15, 1907.

- Webster, U. S. B. 69, 60, 1907.
 Webster, U. S. C. 113, 11, 1909.
- Agrilus anxius**
 Burke, U. S. Y. B., 1909, 403.
 Davis, Jr. Ec. Ent. III, 184, 1910.
 Felt, N. Y. St. Mus. Mem. 8, 284, 1905.
 Felt, N. Y. R. 25, 98, 1910.
 Felt, N. Y. R. 27, 108, 1912.
 Felt, Gard, Mag. Feb. 1912, 36.
 Felt, N. Y. R. 28, 101, 1913.
 Fernald, J. Ec. Ent. V, 246, 1912.
 Fernald, Mass. R. 24, I, 83, 1912.
 Fernald, Mass. R. 25, II, 85, 1913.
 Forbes, Ill. B. 151, 515, 1911.
 Forbes, Ill. Ent. R. 26, 53, 1911.
 Gibson, Ont. Ent. Soc. R. 40, 13, 1910.
 Sanders, Wis. B. 227, 22, 1912.
 Slingerland, N. Y. C. B. 234, 1906.
 Smith, N. J. R., 1909, 415.
 Smith, N. J. R., 1910, 348.
 Swaine, Ont. Ent. Soc. R. 43, 91, 1913.
 Washburn, Minn. R. 12, 98, 1908.
 Washburn, Minn. R. 14, 57, 1912.
 ——— U. S. Y. B., 1907, 550.
 ——— U. S. Y. B., 1908, 578.
- Agrilus bilineatus**
 Anderson & Rankin, N. Y. C. B. 347, 586, 1914.
 Britton, Conn. R. 13, 250, 1914.
 Burgess, U. S. F. B. 564, 5, 1914.
 Burke, U. S. Y. B., 1909, 401.
 Felt, N. Y. St. Mus. Mem. 8, 280, 1905.
 Felt, N. Y. R. 27, 113, 1912.
 Felt, J. Ec. Ent. VII, 373, 1914.
 Howard, U. S. R. Ent., 1914, 11.
 Metcalf & Collins, U. S. F. B. 467, 10, 1911.
 Ruggles, Minn. R. 15, 54, 1914.
 Smith, N. J. R., 1910, 348.
 Washburn, Minn. R. 14, 55, 1912.
 ——— U. S. Y. B., 1906, 515.
 ——— U. S. Y. B., 1908, 574, 578.
- Agrilus champlaini**
 Britton, Conn. R. 12, 291, 1913.
- Agrilus politus**
 Childs, Cal. Hort. B. III, 3, 150, 1914.
 Weiss, J. Ec. Ent. VII, 438, 1914.
- Agrilus ruficollis**
 Caesar, Ont. Ent. Soc. R. 42, 31, 1912.
 Dean & Peairs, Kans. Agr. Educ. VI, 2, 112, 1913.
 Gossard, Ohio B. 164, 24, 1905.
- Gossard, Ohio B. 233, 146, 1911.
 Hitchings, Me. Ent. R. 5, 4, 1910.
 Nicholson, Okla. B. 69, 15, 1905.
 O'Kane, Inj. Ins. 244, 1914.
 Sanderson, Ins. Pests, 466, 1912.
 Slingerland & Crosby, Man. Fr. Ins. 332, 1914.
 Somes, Mo. Fr. Exp. St. Bien. R., 1913-1914, 15.
 Washburn, Minn. C. 29, 1914.
- Agrilus sinuatus**
 Slingerland & Crosby, Man. Fr. Ins. 230, 1914.
 Smith, N. J. Ent. C. 28.
 Smith, N. J. Bd. Agr. R. 37, 188, 1910.
 Weiss, J. Ec. Ent. VII, 251, 1914.
- Agrilus sp.**
 ——— U. S. Y. B., 1908, 578.
- Agrilus sp. in live oak**
 Doane, J. Ec. Ent. V. 347, 1912.
- Agrilus vittaticollis**
 Brooks, J. Agr. Res. III, 179, 1914.
- Agriotes mancus**
 Chittenden, U. S. Y. B., 1912, 334.
 Felt, C. Gentl., 1908, 910.
 Felt, N. Y. R. 26, 51, 1911.
 Johannsen, Me. B. 207, 460, 1912.
 O'Kane, Inj. Ins. 107, 1914.
 Pettit, Mich. B. 233, 202, 1906.
 Pettit, Mich. B. 258, 292, 1910.
 Stedman, Mo. Bd. Agr. R. 38, 248, '06.
 ——— U. S. Y. B., 1907, 546.
- Agromyza aeneiventris**
 Chittenden, U. S. B. 64, 41, 1908.
 Felt, N. Y. St. Mus. Mem. 8, 634, 1906.
- Agromyza angulata**
 Webster & Parks, J. Agr. Res. I, 83, '13.
- Agromyza coquilletii**
 Webster & Parks, J. Agr. Res. I, 84, '13.
- Agromyza melampyga**
 Felt, N. Y. R. 26, 67, 1911.
 Webster & Parks, J. Agr. Res. I, 85, '13.
- Agromyza parvicornis**
 Houser, Ohio B. 251, 79, 1912.
 Phillips, J. Agr. Res. II, 15, 1914.
- Agromyza pruinosa**
 Greene, J. Agr. Res. I, 471, 1914.
- Agromyza pusilla**
 Webster & Parks, J. Agr. Res. I, 59, '13.
- Agromyza scutellata**
 McGregor, J. Ec. Ent. VII, 447, 1914.

Agromyza simplex

- Britton, Conn. R. 6, 303, 1907.
 Chittenden, Ins. Inj. Veg., 97, 1907.
 Chittenden, U. S. B. 66, 1, 1907.
 Chittenden, U. S. B. 66, 94, 1909.
 Chittenden, U. S. C. 135, 1, 1911.
 Essig, Cal. Hort. B. II, 1-2, 251, 1913.
 Fink, N. Y. C. B. 331, 411, 1913.
 Fulton, Wright & Gregg, Pa. B. 110, 19, 1911.
 O'Kane, Inj. Ins. 138, 1914.
 Sanderson, Ins. Pests, 428, 1912.
 ——— U. S. Y. B., 1906, 510.
 ——— U. S. Y. B., 1908, 570.

Agromyza virens

- Webster & Parks, J. Agr. Res. I, 85, '13.

Agrostis messoria*, see *Euxoa***Agrostis* sp.**

- Bethune, Ont. Agr. Coll. B. 158, 31, '07.

Agrostis ypsilon

- Bethune, Ont. Ent. Soc. R. 39, 131, '09.
 Bethune, Ont. Agr. Coll. R. 37, 28, 1912.
 Britton, Conn. R. 6, 265, 1907.
 Chittenden, Ins. Inj. Veg. 52, 1907.
 Cooley, Mont. R. 12, 269, 1906.
 Forbes, Ill. Ent. R. 23, 21, 1905.
 Gibson, Ont. Ent. Soc. R. 41, 12, 1911.
 Gibson, Can. Exp. Farms Ent. B. 3, 16, 1912.
 Phillips, U. S. B. 85, 23, 1909.
 Sanborn, Okla., B. 100, 15, 1912.
 Sanderson, U. S. F. B. 223, 5, 1905.
 Sanderson, U. S. B. 57, 8, 1906.
 Smith, N. J. R., 1910, 352.
 Stedman, Mo. Bd. Agr. R. 38, 281, 1906.
 Symons, Md. B. 101, 162, 1905.
 Treherne, Can. Exp. Farms Ent. B. 8, 44, 1914.
 ——— U. S. Y. B., 1907, 545.
 ——— U. S. Y. B., 1908, 568, 569, 573.

Alabama argillacea

- Bentley, Tenn. Bd. Ent. R. f., 1911, 8.
 Bethune, Ont. Agr. Coll. R. 37, 29, '12.
 Britton, J. Ec. Ent. IV, 562, 1911.
 Britton, J. Ec. Ent. V, 465, 1912.
 Britton, Conn. R. 11, 339, 1912.
 Caesar, Ont. Ent. Soc. R. 43, 83, 1913.
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 Ewing, Oreg. B. 121, 62, 1914.
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- Apanteles algonquinus**
 Sanderson, U. S. B. 57, 36, 1906.
- Apanteles carduicola**
 Sanderson, U. S. B. 57, 42, 1906.
- Apanteles catalpae**
 Burgess, Ohio Nurs. Orch. Insp. R. 4, 14, 1906.
 Burgess, U. S. B. 60, 73, 1906.
 Cotton, Ohio Nurs. Orch. Insp. B. 7, 51, 1906.
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 Britton, Conn. R. 6, 271, 1907.
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 Howard & Fiske, U. S. B. 91, 265, '11.
- Apanteles flavicombe**
 Wildermuth, U. S. D. A. B. 124, 21, '14.
- Apanteles fulvipes**
 Fiske, Mass. For. R. 6, 90, 1910.
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Apanteles glomeratus

- Chittenden, U. S. B. 54, 79, 1905.
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 37, 1909.
 Davis, Ill., Ent. R. 27, 100, 1912.
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Apanteles hyslopi

- Hyslop, U. S. B. 95, 116, 1912.

Apanteles lacteicolor

- Britton, Conn. B. 182, 20, 1914.
 Britton & Caffey, Conn. R. 13, 222, '14.
 Burgess, U. S. F. B. 564, 6, 1914.
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 Howard, Mass. For. R. 9, 72, 1912.
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 Howard, U. S. R. Ent., 1913, 2.
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Apanteles laeviceps

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Apanteles laphygmae

- Sanderson, U. S. B. 57, 13, 1906.

Apanteles lunatus

- Chittenden, U. S. B. 82, 23, 1909.

Apanteles melanocelis

- Howard, U. S. R. Ent., 1914, 3.

Apanteles militaris

- Garman, Ky. B. 137, 436, 1908.
 Sanderson, U. S. B. 57, 10, 1906.

Apanteles solitarius

- Howard, U. S. R. Ent., 1911, 11.
 Howard, U. S. R. Ent., 1912, 9.
 Howard & Fiske, U. S. B. 91, 189, 1911.

Apanteles sp.

- Howard & Fiske, U. S. B. 91, 138,
 1911.

Apanteles, sp. on Anthomyia

- Smith, N. J. R., 1911, 450.

Apanteles sp. on cutworms

- Chittenden, U. S. B. 109, 51, 1912.

Apanteles theclae

- Sanderson, U. S. B. 57, 40, 1906.

Apantesis arge

- Baldwin, Ind. Ent. R. 6, 30, 1914.
 Forbes, Ill. Ent. R. 23, 75, 1905.
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- Somes, Mo. Fr. Exp. Sta. Bien. R.,
 1913-1914, 14.

Apantesis phalerata

- Forbes, Ill. Ent. R. 23, 76, 1905.

Apantesis phyllira

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Apatela americana

- Felt, N. Y. St. Mus. Mem. 8, 525, 1906.

Apatela funeralis

- Johannsen, Me. B. 207, 455, 1912.

Apatela interrupta

- Gossard, Ohio B. 233, 118, 1911.

Apatela obliuina

- Felt, N. Y. St. Mus. Mem. 8, 560,
 1906.

- Forbes, Ill. Ent. R. 23, 170, 1905.

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Apatela populi

- Forbes, Ill. B. 151, 468, 1911.
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Apatela sp.

- Swenk, Nebr. Hort. Soc., 1909, 83.

Apatela superans

- Gossard, Ohio B. 233, 119, 1911.

Apatelodes torrefacta

- Felt, N. Y. St. Mus. Mem. 8, 549, 1906.

Apatelicus see Podisus**Aphaenogaster aquia**

- Brooks, W. Va. R. f., 1909-1910, 190.

Aphaenogaster fulva

- Smith, N. J. B. 225, 17, 1909.

Aphaereta pegomyiae

- Washburn, Minn. R. 12, 131, 1908.

Aphaereta sp.

- Chittenden, U. S. B. 66, 96, 1909.

Aphalara polygona

- Johannsen & Patch, Me. B. 195, 235, '11.

Aphalara veaziei

- Patch, Me. B. 187, 16, 1911.

Aphanogmus floridanus

- McGregor, J. Ec. Ent. VII, 330, 1914.

Aphanogmus varipes

- Chittenden, U. S. C. 104, 6, 1909.

Aphelinus abnormis

- Quaintance & Sasser, U. S. C. 121, 6,
 1910.

Aphelinus diaspidis

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 1910.

- Quayle, J. Ec. Ent. III, 398, 1910.

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 Caesar, Ont. Agr. Coll. B. 219, 17, 1914.
 Cotton, Ohio Nurs. Orch. Insp. B. 7, 33, 1906.
 Felt, N. Y. Fr. Grow. Assoc., 1914, 164.
 Hayhurst, Ark. B. 107, 376, 1911.
 Marlatt, U. S. B. 62, 58, 1906.
 Quaintance, U. S. C. 124, 10, 1910.
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 Zimmer, U. S. B. 97, 119, 1912.
- Aphelinus mali**
 Gillette & Taylor, Colo. B. 133, 26, 1908.
 Smith, Nebr. Bd. Agr. R. f., 1908, 322.
 Webster & Phillips, U. S. B. 110, 122, 1912.
- Aphelinus mytilaspidis**
 Caesar, Ont. Agr. Coll. B. 219, 17, 1914.
 Cotton, Ohio Nurs. Orch. Insp. B. 7, 33, 1906.
 Essig, Cal. Hort. B. II, 1-2, 277, 1913.
 Hayhurst, Ark. B. 107, 376, 1911.
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 Johnson, U. S. D. A. B. 19, 33, 1914.
- Aphidencyrus aphidiphagus**
 Webster & Phillips, U. S. B. 110, 126, 1912.
- Aphides**
 Baldwin, Ind. Ent. R. 6, 31, 1914.
 Beach, Iowa, B. 127, 57, 1912.
 Clarke, Rur. Calif., Oct. 1907, 360.
 Clarke, Rur. Calif., Nov. 1907, 398.
 Gillette, Colo. Fr. Grow., May, 1907, 14.
 Gillette, S. W. Stockm., Apr. 2, '09, 5.
- Gillette & Taylor, S. W. Stockm., Oct. 15, 1909, 1.
 Herrick, N. Y. Fr. Grow. Assoc., 1912, 42.
 Jones, Prai. Farm., Nov. 15, 1914, 23.
 Mathews, Field & Farm., Apr. 25, '08, 5.
 Menges, Pa. R. 19, 355, 1914.
 Morrison, Ind. Ent. R. 5, 198, 1912.
 Pettit, Mich. Farm., 10 Aug. 1912, 109.
 Quaintance, Or. Judd. Farm., Apr. 20, 1907, 551.
 Smith, N. J. B., 181, 5, 1905.
 Smith, Nebr. Bd. Agr. R. f., 1908, 307.
 Smith, N. J. R., 1911, 413.
 Surface, Pa. R. 16, 124, 1910.
 Weiss & Patterson, N. J. C. 15, 25, '12.
 ——— Va. Agr. R. f., 1905, 99.
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 Webster & Phillips, U. S. B. 110, 122, 1912.
- Aphidius confusus**
 Webster & Phillips, U. S. B. 110, 122, 1912.
- Aphidius fletcheri**
 Folsom, Ill. B. 134, 152, 1909.
- Aphidius nigripes**
 Gahan, J. Ec. Ent. IV, 424, 1911.
- Aphidius piceus**
 Herrick, J. Ec. Ent. IV, 222, 1911.
 Herrick & Hungate, N. Y. C. B. 300, 735, 1911.
- Aphidius testaceipes**
 Essig, Pom. Jr. Ent. III, 614, 1911.
 Essig, Cal. Hort. B. I, 7, 292, 1912.
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 Sanderson, U. S. B. 57, 27, 1906.
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 Webster & Phillips, U. S. B. 110, 104, 1912.
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- Aphine**
 Smith, N. J. R., 1908, 366.
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 Popenoe, U. S. C. 155, 2, 1912.
- Aphiochaeta epeirae**
 Pierce, U. S. B. 100, 48, 1912.
- Aphiochaeta fasciata**
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Aphiochaeta fungicola

Quaintance & Brues, U. S. B. 50, 126, 1905.

Aphiochaeta nigriceps

Britton & Cromie, Conn. R. 11, 328, '12.
Pierce, U. S. B. 100, 48, 1912.
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Aphiochaeta perdita

Wildermuth, U. S. D. A. B. 124, 24, '14.

Aphiochaeta pygmaea

Pierce, U. S. B. 100, 48, 1912.

Aphiochaeta rufipes

Walden, Conn. R. 10, 693, 1911.

Aphiochaeta scalaris

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Aphiochaeta spp.

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Aphis abbreviata

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Gillette & Taylor, Colo. B. 133, 28, 1908.
Johannsen, Me. B. 207, 448, 1912.
O'Kane, Inj. Ins. 317, 1914.
Sanderson, Ins. Pests, 606, 1912.
Stewart, C. Gentl., May 10, 1913, 743.
Webster, J. Ec. Ent. II, 211, 1909.
Wilson, Oreg. Bien. Crop Pest R. f., 1911–1912, 89.

Aphis brassicae

Atkinson, Or. Judd. Farm., June 15, 1907, 759.
Barre & Conradi, S. C. B. 141, 27, 1909.
Bennett, Colo. B. 143, 6, 1909.
Bremner, Cal. Hort. Comm. Destr. Ins. 24, 1910.
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Clarke, Ala. Poly. B. 139, 19, 1907.
Conradi, Tex. B. 89, 11, 1907.
Cooley, Mont. B. 64, 43, 1906.
Cooley, Mont. B. 88, 90, 1912.

Cooley, Mont. B. 92, 57, 1912.

Cooley, Mont. B. 98, 125, 1914.

Corbett, U. S. F. B. 433, 10, 1911.

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Davis, Ill. Ent. R. 26, 111, 1911.

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Ehrhorn, Cal. Hort. Comm. Bien. R. 2, 228, 1907.

Eessig, Pom. Jr. Ent. III, 523, 1911.

Eessig, Cal. Hort. B. II, 1–2, 59, 1913.

Fletcher, Can. Exp. Farms B. 52, 41, 1905.

Fletcher, Ont. Ent. Soc. R. 35, 51, 1905.

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Fulton, Wright & Gregg, Pa. B. 110, 20, 1911.

Garcia, N. Mex. B. 68, 7, 1908.

Gillette, J. Ec. Ent. III, 405, 1910.

Herrick, Rur. N. Y., 1910, 820.

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Herrick, N. Y. Veg. Grow. Assoc., 1913–1914, 184.

Herrick & Hungate, N. Y. C. B. 300, '11.

Jarvis, Conn. Storrs, B. 56, 247, 1909.

Jordan, N. Y., Geneva B. 393, 653, 1914.

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Morrison, Ind. Ent. R. 5, 218, 1912.

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Parker, Mont. C. 28, 17, 1913.

Parrott, N. Y. Dept. Agr. B. 62, 1828, 1914.

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Sanderson, Ins. Pests, 371, 1912.

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Sherman, N. C. Dept. Agr. B. 32, 7, 1911.

Slingerland & Crosby, N. Y. C. B. 252, 345, 1908.

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Smith, N. C. B. 197, 17, 1908.

Smith, N. C. R. 31, 27, 1908.

Surface, Pa. D. A. Zool. V, 12, 373, 1908.

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 ——— U. S. Y. B., 1908, 571.
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 Gillette, J. Ec. Ent. I, 178, 1908.
- Aphis cerasifolii**
 Gillette, J. Ec. Ent. III, 405, 1910.
- Aphis citri**
 Essig, Pom. Jr. Ent. I, 47, 1909.
- Aphis cookii**
 Essig, Pom. Jr. Ent. III, 587, 1911.
 Essig, Cal. Hort. B. I, 4, 117, 1912.
 Essig, Cal. Hort. B. II, 1-2, 61, 1913.
- Aphis crataegifoliae**
 Davidson, J. Ec. Ent. III, 377, 1910.
- Aphis fitchii**
 Gossard, Ohio B. 198, 41, 1908.
 Gossard, Ohio B. 233, 109, 1911.
- Aphis forbesi**
 Barre & Conradi, S. C. B. 141, 49, 1909.
 Bentley, Tenn. R. f., 1912, 61.
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 Bentley, Tenn. Bd. Ent. R. f., 1913, 36.
 Close, Ballard & White, Md. B. 160, 219, 1911.
 Dean & Peairs, Kans. Agr. Educ. VI, 2, 120, 1913.
 Douglass, Ind. Ent. R. 2, 101, 1910.
 Gillette, J. Ec. Ent. I, 178, 1908.
 Gossard, Ohio B. 198, 75, 1908.
 Gossard, Ohio B. 233, 151, 1911.
 Houghton, Del. C. 2, 1907.
 Moore, Wis. R. 23, 236, 1906.
 Moore, Wis. R. 24, 374, 1907.
 Moore, Wis. B. 190, 31, 1910.
 Morrison, Ind. Ent. R. 5, 219, 1912.
 O'Kane, Inj. Ins. 229, 1914.
 Pettitt, Mich. B. 244, 203, 1907.
 Phillips, Va. Hort. Soc. 13th R. 212, '09.
 Rosenfeld, J. Ec. Ent. III, 215, 1910.
 Sanborn, Okla. B. 100, 53, 1912.
 Sanders, Wis. B. 227, 19, 1912.
 Sanderson, Ins. Pests, 440, 1912.
 Shaw, Ohio Bd. Agr. R. 64, 1909, 631.
- Sherman, N. C. Dept. Agr. B. 34, 8, 21, 1913.
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 Smith, N. J. B. 225, 24, 1909.
 Strickland, Rur. N. Y., 1912, 576.
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 Washburn, Minn. R. 12, 144, 1908.
 Whiteside, Mont. Bd. Hort. f., 1907-1908, 44, 1909.
 ——— U. S. Y. B., 1907, 552.
 ——— U. S. Y. B., 1908, 574.
- Aphis gladioli**
 Felt, J. Ec. Ent. I, 330, 1908.
 Felt, N. Y. R. 24, 19, 1909.
 Patch, Me. B. 202, 176, 1913.
 Webster, Can. Ent., 1909, 424.
- Aphis gossypii**
 Barre & Conradi, S. C. B. 141, 32, 38, 1909.
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 Bentley, Tenn. Bd. Ent. R. f., 1913, 35.
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 Bremner, Cal. Hort. Comm. Destr. Ins. 22, 1910.
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 Cadwallader, S. W. Stockm., May 21, 1909, 5.
 Chandler, Mo. B. 102, 270, 1912.
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 Chittenden, Ins. Inj. Veg. 165, 1907.
 Conradi, U. S. B. 60, 68, 1906.
 Cook, Cal. Hort. I, 2, 64, 1912.
 Davis, J. Ec. Ent. III, 180, 1910.
 Davis, Ill. Ent. R. 26, 120, 1911.
 Davis, Ill. Ent. R. 27, 117, 1912.
 Dean, Kans. Farm., May 24, 1913, 7.
 Dillon, Col. Rur. World, June 5, 1912, 186.
 Durst, Ill. B. 174, 322, 1914.
 Ehrhorn, Cal. Hort. Comm. Bien. R. 2, 228, 1907.
 Essig, Pom. Jr. Ent. II, 223, 1910.
 Essig, Pom. Jr. Ent. III, 590, 1911.
 Essig, Cal. Hort. B. 1, 4, 120, 1912.
 Essig, Cal. Hort. B. II, 1-2, 61, 1913.
 Fulton, Wright & Gregg, Pa. B. 110, 27, 1911.
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Aphis gossypii (*Cont'd*)

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 Gillette, U. S. B. 52, 60, 1905.
 Gillette, Colo. R. 19, 142, 1906.
 Gillette, J. Ec. Ent. I, 176, 1908.
 Gillette, J. Ec. Ent. III, 404, 1910.
 Glynn, C. Gentl., 1906, 676.
 Green, Nat'l Fr. Grow., July 1905, 10.
 Green, Tex. B. 94, 17, 1907.
 Headlee, Kans. Farm., Aug. 20, '08, 882.
 Howard, U. S. R. Ent., 1906, 8, 22.
 Hunter, U. S. F. B. 344, 39, 1909.
 Hunter, U. S. F. B. 512, 39, 1912.
 Kyle & Conradi, Tex. Stockm. Farm., July 17, 1907, 6.
 Lewis Pr. Ga. Hort. Soc., 1912, 11.
 Lovett, Oreg. Coll. B. 91, 27, 1913.
 Moore, Minn. R. 15, 68, 1914.
 Morrill, S. W. Stockm., Aug. 7, 1914, 8.
 Morrill, Ariz. Comm. Agr. & Hort. R. 6, 34, 37, 1914.
 Morrison, Ind. Ent. R. 5, 221, 1912.
 O'Kane, Inj. Ins. 199, 1914.
 Pettit, Mich. B. 233, 180, 1906.
 Price, Va. C. 7, 58, 1909.
 Quayle, Cal. B. 214, 493, 1911.
 Reed, Ga. Hort. Soc. f., 1914, 56.
 Rosenfeld, J. Ec. Ent. III, 213, 1910.
 Sanborn, Tex. B. 89, 43, 1907.
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 Sanborn, Okla. P. B. 176, 1911.
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 Sanderson, U. S. B. 60, 75, 1906.
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 Sherman, Prog. Farm., Mar. 14, '05, 2.
 Sherman, N. C. Dept. Agr. B., 29, 6, 14, 1908.
 Sherman, Prog. Farm., June 25, '08, 15.
 Slingerland, Herrick & Crosby, N. Y. C. B. 283, 471, 1910.
 Slingerland & Crosby, N. Y. C. B. 252, 344, 1908.
 Smith, N. J. Ent. C. 33.
 Smith, Ga. Bd. Ent. B. 16, 52, 1905.
 Smith, Nebr. Ins. Pest Bur. C. 4, 1908.
 Smith, Nebr. Bd. Agr. R. f., 1908, 324.
 Smith, N. J. R. 376, 1909.
 Smith, N. C. B. 197, 40, 1908.

- Smith, N. C. B. 205, 15, 1910.
 Smith, Prog. Farm., July 29, 1911, 654.
 Smith, U. S. B. 67, 101, 1907.
 Smith & Lewis, U. S. B. 60, 81, 1906.
 Swenk, Nebr. Bd. Agr. R. f., 1910, 369.
 Swenk, Nebr. P. B. 34, 1911.
 Swenk, S. W. Stockm., July 11, 1911, 1.
 Symons, Md. B. 101, 182, 1905.
 Thornber, Field & Farm, June 8, 1907, 5.
 Thornber, S. W. Stockm., May 1, '08, 4.
 Tucker, Kans. Farm., July 19, 1906, 748.
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 ——— C. Gentl., 1908, 736.
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 ——— U. S. Y. B., 1908, 567, 572.

Aphis grossulariae

- Wilson, Oreg. Bien. Crop Pest R. f., 1911-1912, 95.

Aphis hederace

- Essig, Cal. Hort. B. II, 1-2, 63, 1913.

Aphis houghtonensis

- Troop, Ind. Bd. Agr. R. 54, 488, 1905.
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Aphis maidi-radici

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 Davis, Ill. Ent. R. 27, 120, 1912.
 Dean, Kans. Agr. Educ. I, 4, 6, 1909.
 Felt, N. Y. R. 25, 78, 86, 1910.
 Forbes, U. S. B. 60, 29, 1906.
 Forbes, Or. Judd. Farm., Apr. 6, '07, 470.
 Forbes, Or. Judd. Farm. Apr. 18, '08, 501.
 Forbes, Ill. B. 130, 3, 1908.
 Forbes, J. Ec. Ent. I, 81, 1908.
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 Forbes, Ill. Ent. R. 25, 1, 1909.
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 Helmick, Iowa Agric., May, 1914, 462.
 Hobbs, Prog. Farm., Apr. 2, 1910, 300.
 Kohler, Iowa Agric., Nov., 1905, 84.
 Lamson, Iowa Agric., May 1911, 28.
 O'Kane, Inj. Ins. 113, 1914.
 Pettit, Mich. B. 233, 204, 1906.
 Pettit, Mich. B. 258, 290, 1910.
 Popenoe, Kans. Farm., June 14, '06, 675.
 Popenoe, Kans. Farm., June 13, '07, 706.
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 Sherlock, Wis. Farm., July 20, 1905, 1.
 Sherman, N. C. Dept. Agr. B. 29, 6, 17, 1908.
 Sherman, J. Ec. Ent. II, 203, 1909.
 Sherman, N. C. Dept. Agr. B. 35, 5, 19, 1914.
 Smith, Nebr. Bd. Agr. R. f., '1908, 317.
 Smith, Prog. Farm., Mar. 15, '13, 370.
 Stedman, Mo. Bd. Agr. R. 38, 252, 1906.
 Surface, Pa. D. A. Zool. I, 1, 26, 1911.
 Swenk, Nebr. Bd. Agr. R. f., 1910, 365.
 Swenk, Nebr. Ent. B. 1, 72, 1913.
 Symons, Md. B. 101, 160, 1905.
 Thomas, S. C. B. 175, 1914.
 Troop, Ind. Hort. Soc. f., 1906, 122, '07.
 Troop, Ind. Farm., Aug. 10, 1912, 1.
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 ——— Nebr. Bd. Agr. R. f., 1908, 317.
 ——— Kans. Bd. Agr. Quar. R., v. XXIV, 96, 271, 1905.
 ——— U. S. Y. B., 1905, 634.
 ——— U. S. Y. B., 1906, 510.
 ——— U. S. Y. B., 1907, 543.
 ——— U. S. Y. B., 1908, 573.

Aphis maidis

Davis, Tech. B. 12, pt. 8, U. S. Bur. Ent. 144, 1909.
 Essig, Cal. Hort. B. II, 1-2, 63, 1913.
 Forbes, Ill. Ent. R. 23, 123, 1905.
 Garman, Ky. B. 145, 292, 1909.
 Howard, U. S. R. Ent., 1911, 26.
 O'Kane, Inj. Ins. 198, 1914.
 Patch, Me. B. 202, 173, 1913.
 Pettit, Mich. B. 233, 206, 1906.

Sanderson, Ins. Pests, 170, 1912.
 Smith, Nebr. Bd. Agr. R. f., 1908, 319.
 Swenk, Nebr. Bd. Agr. R. f., 1908, 319.
 Swenk, Nebr. Bd. Agr. R. f., 1910, 365.
 Swenk, J. Ec. Ent. IV, 286, 1911.
 Swenk, Nebr. Ent. B. 1, 78, 1913.
 Washburn, Minn. P. B. 32, 21, 1908.
 Washburn, Minn. R. 12, 51, 1908.
 Webster, U. S. C. 86, 1, 1907.
 ——— U. S. Y. B., 1905, 631.
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Aphis mali

Ball & Titus, Deseret Farm., May 6, 1911, 2.
 Baldwin, Ind. Farm., May 17, 1913, 3.
 Bethune, Ont. Agr. Coll. B. 158, 12, '07.
 Burgess & Collins, U. S. Y. B., 1911, 455.
 Douglass, Ind. Ent. R. 1, 103, 1908.
 Douglass, Ind. Ent. R. 3, 115, 1910.
 Ehrhorn, Cal. Hort. Comm. Bien. R. 1, 108, 1905.
 Felt, N. Y. R. 25, 77, 1910.
 Garman, Ky. B. 133, 51, 1908.
 Gillette, Colo. Fr. Grow., Feb. 1908, 8.
 Gillette, Better Fr. Feb. 1910, 30.
 Herrick, N. Y. Dept. Agr. B. 28, 71, 1911.
 Hitchings, Me. Ent. R. 5, 7, 1910.
 Lamson, Conn. Storrs, B. 71, 66, 1912.
 Lewis, Pr. Ga. Hort. Soc., 1907, 120.
 Moore, Wis. R. 23, 234, 1906.
 Moore, Wis. B. 190, 21, 1910.
 Murtfeldt, J. Ec. Ent. II, 219, 1909.
 Pettit, Mich. Farm., July 27, 1907, 55.
 Quaintance, Pr. Ent. Soc. Wash. IX, 43, 1907.
 Quaintance, U. S. C. 81, 5, 1907.
 Rosenfeld, La. Hort. Soc., 1908, 107.
 Rumsey, U. S. B. 67, 33, 1907.
 Smith, Ga. Bd. Ent. B. 20, 167, 1906.
 Smith, U. S. B. 67, 104, 1907.
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 ——— Pac. Rur. Press, LXXI, 294, '06.
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Aphis malifoliae

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 Felt, N. Y. R. 25, 77, 1910.
 Herrick, N. Y. Dept. Agr. B. 28, 72, 1911.
 Quaintance, U. S. C. 81, 7, 1907.
 Volck, Better Fr., Jan. 1913, 27.

Aphis medicaginis

- Chittenden, U. S. B. 64, 40, 1908.
 Gillette, J. Ec. Ent. I, 177, 1908.
 Gillette & Taylor, Colo. B. 133, 32, 1908.
 Sanderson, U. S. B. 57, 26, 1906.
 Sanderson, Ins. Pests, 241, 1912.

Aphis middletoni

- Vickery, U. S. B. 85, 113, 1910.

Aphis neri

- Essig, Pom. Jr. Ent. III, 530, 1911.
 Essig, Cal. Hort. B. II, 1-2, 66, 1913.

Aphis oenotheriae

- Gillette, J. Ec. Ent. I, 178, 1908.

Aphis persicae-niger

- Ball & Titus, Deseret Farm., May 6, 1911, 2.
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 Bentley, Tenn. Bd. Ent. R. f., 1913, 28.
 Bremner, Cal. Hort. Comm. Destr. Ins. 21, 1910.
 Burgess, Ohio Bd. Agr. R. 60, 659, 1906.
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- Apple leaf roller**, *see* *Acleris*
- Apple leaf-miner**, *see* *Tischeria malifoliella*
- Apple leaf-sewer**, *see* *Ancyliis nubeculana*
- Apple-leaf skeletonizer**, *see* *Canarsia hammondi*
- Apple leaf trumpet miner**, *see* *Tischeria malifoliella*
- Apple maggot**, *see* *Rhagoletis pomonella*
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- Apple twig-beetle**, *see* *Stephanoderes hispidulus*
- Apple twig-borer**, *see* *Amphicerus bicaudatus*
- Apple worm**, *see* *Carpocapsa pomonella*
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Aspidiotus perniciosus (*Cont'd*)

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***Aspidiotus perniciosus* (Cont'd)**

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Aspidiotus perniciosus (Cont'd)

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Aspidiotus perniciosus (Cont'd)

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- California peach-tree borer, *see* *Sanninoidea opalescens*
- California pear sawfly, *see* *Gymnonychnus californicus*
- California phryganidia, *see* *Phryganidia californica*
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Coulee cricket, see Peranabrus scabricollis

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itiosa**

Destructive mealy bug, *see* **Pseudococcus
citri**

Destructive pea aphid, *see* **Macrosiphum
pisi**

Destructive pine bark-beetle, *see* **Dendroc-
tonus frontalis**

Destructive spruce-wood borer, *see* **Tetro-
pium cinnamopterum**

Devastating grasshopper, *see* **Melanoplus
devastator**

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- Garman, Ky. B. 130, 45, 1907.

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 Johannsen, Me. B. 177, 27, 1910.
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Diaphnidia hamata

Johnson, U. S. D. A. B. 19, 33, 1914.

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Clarke, Ala. Poly. C. 1, 5, 1906.

Diaspis boisduvalii

Britton, Conn. R. 5, 240, 1906.

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Berger, Fla. R., 1907, xxxviii.

Carnes, Cal. Hort. Comm. Bien. R. 2, 199, 1907.

Davis, Ill. Ent. R. 27, 124, 1912.

Essig, Cal. Hort. B. II, 1-2, 123, 1913.

Diaspis carueli

Carnes, Cal. Hort. Comm. Bien. R. 2, 200, 1907.

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Diastictis, see Cymatophora**Diastrophus cuscuthaeformis**

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Diastrophus nebulosus, see D. turgidus**Diastrophus turgidus**

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Smith, N. J. Ent. C. 26.

Surface, Pa. D. A. Zool. III, 1, 9, 1913.

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O'Kane, Inj. Ins. 125, 1914.
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Webster & Parks, J. Agr. Res. I, 81, '13.
- Diaulinus begini**
Phillips, J. Agr. Res. II, 28, 1914.
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Haseman, Mo. B. 104, 324, 1912.
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Felt, N. Y. St. Mus. Mem. 8, 457, 1906.
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Herrick, N. Y. C. B. 311, 291, 1912.
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- Dichelonycha albicollis**
Felt, N. Y. St. Mus. Mem. 8, 694, 1906.
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- Dichromorpha viridis**
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- Dicymolomia julianis**
Gahan, J. Ec. Ent. II, 236, 1909.
Tucker, Can. Ent., 1911, 24.
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Morgan, U. S. Y. B., 1910, 294.
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Watson, Fla. B. 112, 37, 1912.
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Quayle, Cal. Hort. B. II, 3-4, 375, 1913.
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Osborn, U. S. B. 108, 60, 1912.
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Washburn, Minn. Ent. R. 13, 110, 1910.
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- Dione vanillae**
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Britton, Conn. R. 11, 341, 1912.
Johannsen, Me. B. 207, 453, 1912.
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Marsh, U. S. B. 109, 62, 1912.
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- Diplacus ceroputo**, *see* **Ceroputo yuccae**
- Diplazon laetatorius**
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- Diplosis sorghicola**, *see* **Contarinia**
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Smith, Cal. Hort. B. III, 1, 28, 1914.
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- Diplosis violicola**, *see* **Contarinia**
- Diplotaxis frondicola**
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- Essigella californica**
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Patch, Me. B. 202, 169, 1913.
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Gable, Nebr. Bd. Agr. R. f., 1909, 253.
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Metcalf, N. C. Dept. Agr. Sp. B. 58, '09.
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Britton, Conn. R. 6, 274, 1907.
Jenkins, Conn. B. 180, 43, 1914.
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Watson, Fla. R., 1912, lxii.
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 Felt, N. Y. St. Mus. Mem. 8, 445, 1906.
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 Forbes, Ill. Ent. R. 24, 128, 1908.
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- Eudoromyia magnicornis**
 Howard, U. S. R. Ent., 1911, 10.
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 Howard & Fiske, U. S. B. 91, 303, 1911.
- Eudryas grata**
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- Eufitchia ribearia, see Cymatophora**
- Eugonia subsignarius, see Ennomos**
- Eulecanium armeniacum, see Eulecanium persicae**
- Eulecanium aurantiacum**
 Douglass, Ind. Ent. R. 4, 169, 1912.
- Eulecanium canadense**
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 Essig, Cal. Hort. B. II, 1-2, 115, 1913.
 Merrill, Cal. Hort. I, 4, 113, 1912.
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 Douglass, Ind. Ent. R. 4, 171, 1912.
- Eulecanium corni**
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 Carnes, Cal. Hort. Comm. Bien. R. 2, 190, 1907.
- Eulecanium fasciatum**
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 Douglass, Ind. Ent. R. 4, 173, 1912.
- Eulecanium hesperidum, see Coccus**
- Eulecanium kingii**
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- Eulecanium nigrofasciatum**
 Barre & Conradi, S. C. B. 141, 38, 1909.
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 Gahan, Md. B. 123, 155, 1907.
- Eulecanium persicae**
 Bentley, Tenn. B. v. XIX, 2, 34, 1906.
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- Eulecanium prunastri**
 Gossard, Ohio B. 198, 58, 1908.
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 Sanders, J. Ec. Ent. II, 446, 1909.
- Eulecanium pubescens**
 Carnes, Cal. Hort. Comm. Bien. R. 2, 191, 1907.
- Eulecanium quercifex**
 Felt, N. Y. R. 21, 101, 1906.
 Gee, J. Ec. Ent. V, 484, 1912.
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 Popenoe, Kans. Farm., June 14, '06, 641.
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 Dean & Peairs, Kans. Agr. Educ. VI, 2, 83, 1913.
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 Cundiff, Cal. Hort. Comm. C. Feb. '06, 6.
 Haseman, Mo. Hort. Soc., 1911, 251.

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- Britton, Conn. B. 151, 9, 1905.
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- Felt, N. Y. St. Mus. Mem. 8, 681, 1906.

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- Johannsen, Me. B. 207, 454, 1912.
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- Felt, N. Y. St. Mus. Mem. 8, 532, 1906.
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- Quaintance & Brues, U. S. B. 50, 111, 1905.

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- Felt, N. Y. R. 27, 119, 1912.

Eumicrosoma benefica

- McColloch, J. Ec. Ent. VII, 219, 1914.

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- Cotton, Ohio Nurs. Orch. Insp. B. 7, 25, 1906.
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Eunotus sp.

- Patch, Me. B. 121, 171, 1905.

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- Burgess, U. S. B. 60, 71, 1906.
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- Essig, Cal. Hort. B. II, 1-2, 274, 1913.
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Eupelmus reduvii

- Chittenden, U. S. C. 39, 2nd Ed., 4, '08.

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- Scott & Paine, U. S. D. A. B. 113, 11, 1914.

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- Davidson, U. S. D. A. B. 100, 37, 1914.
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 Webster & Phillips, U. S. B. 110, 130, 1912.

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- Britton, Conn. R. 9, 374, 1910.

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- Hunter, Pratt & Mitchell, U. S. B. 113, 32, 1912.

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- Sherman, N. C. Dept. Agr. B. 29, 6, 53, 1908.
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- Forbes, Ill. Ent. R. 23, 99, 1905.

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- Howard & Chittenden, U. S. C. 96, 5, 1907.

- Howard & Fiske, U. S. B. 91, 145, 1911.

- Marsh, U. S. B. 127, 17, 1913.

- Swenk, Nebr. R. 24, 29, 1911.

- Webster, J. Ec. Ent. IV, 181, 1911.

- Wildermuth, U. S. C. 133, 7, 1911.

- Wildermuth, U. S. D. A. B. 124, 25, '14.

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- Gossard, Ohio B. 198, 72, 1908.

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Gillette, Colo. B. 98, 13, 1905.
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Larger beet leaf-beetle, *see* *Monoxia puncticollis*

Larger chestnut weevil, *see* *Balaninus proboscideus*

Larger corn stalk-borer, *see* *Diatraea zeacolella*

Larger elm leaf-beetle, *see* *Monocesta coryli*

Larger fir-tree bark-beetle, *see* *Hylesinus granulatus*

Larger grain-borer, *see* *Dinoderus truncatus*

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- Vickery, U. S. B. 85, 105, 1910.

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- Vickery, U. S. B. 85, 106, 116, 1910.

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- Patch, Me. B. 134, 218, 1906.

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- Felt, N. Y. R. 25, 86, 1910.
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Quayle, U. S. D. A. B. 134, 11, 1914.

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Popenoe, Kans. Farm., May 31, '06, 581.

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- Luperodes brunneus**
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Kelly, J. Agr. Res. II, 436, 1914.

Morgan, U. S. Y. B., 1910, 293.

Pettit, Mich. B. 233, 206, 1906.

Pettit, Mich. B. 258, 302, 1910.

Sanderson, Ins. Pests, 98, 1912.

Wilson, Oreg. Bien. Crop Pest. R. f. 1913-1914, 134.

——— U. S. Y. B., 1907, 542.

——— U. S. Y. B., 1908, 568.

Melanoplus biliturus

Kelly, J. Agr. Res. II, 440, 1914.

Melanoplus bivittatus

Bruner, U. S. B. 54, 61, 1905.

Cooley, Mont. R. 12, 273, 1906.

Cooley, Mont. B. 88, 87, 1912.

Forbes, Ill. Ent. R. 23, 136, 1905.

Gillette, U. S. B. 52, 61, 1905.

Headlee, Kans. B. 155, 332, 1908.

Jardine & Call, Kans. B. 197, 609, 1914.

Kelly, J. Agr. Res. II, 435, 1914.

Patch, Me. B. 162, 365, 1908.

Quayle, J. Ec. Ent. IV, 526, 1911.

Sanderson, Ins. Pests, 99, 1912.

Swenk, J. Ec. Ent. IV, 286, 1911.

Webster, U. S. C. 84, 3, 1907.

Melanoplus devastator

Hunter, Cal. B. 170, 5, 1905.

Sanderson, Ins. Pests, 99, 1912.

Melanoplus devastator conspicuus

Essig, Cal. Hort. B. II, 1-2, 18, 1913.

Melanoplus differentialis

Bruner, U. S. B. 54, 61, 1905.

Chittenden, Ins. Inj. Veg., 71, 1907.

Essig, Cal. Hort. B. II, 1-2, 17, 1913.

Forbes, Ill. Ent. R. 23, 136, 1905.

Gillette, U. S. B. 52, 61, 1905.

Headlee, Kans. B. 155, 332, 1908.

Hunter, Cal. B. 170, 17, 1905.

Jardine & Call, Kans. B. 197, 609, 1914.

Kelly, J. Agr. Res. II, 435, 1914.

Morrill, Ariz. Comm. Agr. & Hort. R. 6, 40, 1914.

Quayle, J. Ec. Ent. IV, 526, 1911.

Sanborn, Okla. B. 100, 35, 1912.

Sanderson, U. S. F. B. 223, 10, 1905.

Sanderson, U. S. B. 57, 19, 1906.

Sanderson, Ins. Pests, 99, 1912.

Smith, N. J. R., 1908, 342.

Webster, U. S. B. 67, 98, 1907.

Webster, U. S. Y. B., 1907, 248.

Webster, U. S. C. 84, 2, 1907.

——— U. S. Y. B., 1906, 509.

——— U. S. Y. B., 1907, 542.

——— U. S. Y. B., 1908, 568.

Melanoplus femur-rubrum

Britton, Conn. R. 6, 274, 1907.

Bruner, U. S. B. 54, 61, 1905.

Chittenden, Ins. Inj. Veg. 70, 1907.

Douglass, Ind. Ent. R. 2, 116, 1910.

Forbes, Ill. Ent. R. 23, 136, 1905.

Garman, Ky. B. 125, 44, 1906.

Gillette, U. S. B. 52, 61, 1905.

Jarvis, Ont. Ent. Soc. R. 37, 50, 1907.

Kelly, J. Agr. Res. II, 436, 1914.

Metcalf, N. C. Dept. Agr. Sp. B., 59, 1909.

Patch, Me. B. 148, 269, 1907.

Patch, Me. B. 162, 365, 1908.

Pettit, Mich. B. 233, 206, 1906.

Pettit, Mich. B. 258, 302, 1910.

Quayle, J. Ec. Ent. IV, 526, 1911.

Sanderson, Ins. Pests, 98, 1912.

Smith, N. J. R., 1908, 342.

Washburn, U. S. B. 60, 84, 1906.

Wilson, Greg. Bien. Crop Pest. R. f. 1913-1914, 134.

Melanoplus infantilis

Bruner, U. S. B. 54, 64, 1905.

Melanoplus lakinus

Bruner, U. S. B. 54, 61, 1905.

Melanoplus occidentalis

Bruner, U. S. B. 54, 64, 1905.

Melanoplus packardii

Bruner, U. S. B. 54, 64, 1905.

Melanoplus scudderii

Forbes, Ill. Ent. R. 23, 142, 1905.

Melanoplus spretus

Chittenden, Ins. Inj. Veg. 70, 1907.

Forbes, Ill. Ent. R. 23, 136, 1905.

Headlee, Kans. B. 153, 332, 1908.

Matheson, S. D. Hort. Soc. 5th R. 215, 1908.

Sanderson, Ins. Pests, 93, 1912.

Webster, U. S. C. 84, 3, 1907.

Webster, U. S. Y. B., 1908, 377.

——— U. S. Y. B., 1906, 517.

Melanoplus spp.

Dean, J. Ec. Ent. VII, 67, 1914.

Garcia, N. Mex. B. 68, 33, 1908.

Hughes, Iowa B. 137, 70, 1913.

Melanoplus uniformis

Essig, Cal. Hort. B. II, 1-2, 19, 1913.

Hunter, Cal. B. 170, 5, 1905.

Melanophila drummondi

Burke, U. S. Y. B., 1909, 404.

Melanophila fulvoguttata

Burke, U. S. Y. B., 1909, 405.

Felt, J. Ec. Ent. VII, 373, 1914.

Melanophthalma distinguenda

Forbes, Ill. Ent. R. 23, 182, 1905.

Melanophthalma pumila

Forbes, Ill. Ent. R. 23, 182, 1905.

Melanostoma mellinum

Symons, Md. B. 101, 199, 1905.

Melanotus communis

Swenk, Nebr. Bd. Agr. R. f. 1910, 364.

Swenk, Nebr. Ent. B. 1, 79, 1913.

Symons, Md. B. 101, 161, 1905.

Webster, U. S. Y. B., 1908, 383.

Melanotus cribulosus

Britton, Conn. R. 6, 268, 1907.

Stedman, Mo. Bd. Agr. R. 38, 244, 1906.

Melanotus fissilis

Johannsen & Patch, Me. B. 195, 233, '11.

Melanoxantharium antennatum

Patch, Me. B. 213, 87, 1913.

Melanoxantharium bicolor

Patch, Me. B. 213, 85, 1913.

Melanoxantharium salicis

Patch, Me. B. 213, 88, 1913.

Melanoxantharium salicti

Patch, Me. B. 213, 86, 1913.

Melanoxantharium smithiae

Patch, Me. B. 213, 86, 1913.

Melasoma interrupta

Britton, Conn. R. 10, 707, 1911.

Melasoma lapponica

Felt, N. Y. St. Mus. Mem. 8, 564, 1906.

Forbes, Ill., Ent. R. 23, 186, 1905.

Garman, Ky. B. 120, 59, 1905.

Harned, Pr. Columbus Hort. Soc., 1906, 106.

Swenk, Nebr. Hort. Soc. 1909, 120.

Melasoma scripta

Britton, Conn. R. 10, 707, 1911.

Bruner, Nebr. Ent. R. f. 1907-1908, 9.

Burgess, U. S. B. 60, 74, 1906.

Felt, N. Y. St. Mus. Mem. 8, 317, 1905.

Fernald, Mass. R. 25, II, 87, 1913.

Garman, Ky. B. 120, 55, 1905.

Smith, N. J. R., 1910, 347.

Smith, N. J. B. 427, 1911.

Swenk, Nebr. Hort. Soc., 1909, 119.

Washburn, Minn. R. 12, 109, 1908.

Weiss, N. J. R., 1912, 436.

Weiss & Patterson, N. J. C. 15, 7, 1912.

— U. S. Y. B., 1905, 635.

Melasoma spp.

Bruner, Nebr. Farm., Aug. 25, 1909, 755.

Swenk, Nebr. Hort. Soc. R., 1909, 103.

Melasoma tremulae

Criddle, J. Ec. Ent. IV, 240, 1911.

Criddle, Ont. Ent. Soc. R. 43, 100, 1913.

Felt, N. Y. St. Mus. Mem. 8, 565, 1906.

Meliana albilinea

Ainslie, U. S. B. 85, 60, 1910.

Forbes, Ill. Ent. R. 23, 83, 1905.

Gossard, Ohio B. 233, 67, 1911.

O'Kane, Inj. Ins. 214, 1914.

Quayle, J. Ec. Ent. IV, 525, 1911.

Swenk, Nebr. Bd. Agr. R. f. 1910, 363.

Webster, J. Ec. Ent. II, 210, 1909.

Webster, J. Ec. Ent. III, 503, 1910.

Webster, Iowa B. 122, 325, 1911.

Webster, J. Ec. Ent. IV, 179, 1911.

Webster, J. Ec. Ent. V, 335, 1912.

— U. S. Y. B., 1906, 510.

Melitara dentata

Hunter, Pratt & Mitchell, U. S. B. 113, 28, 1912.

Melitara fernaldialis

Hunter, Pratt & Mitchell, U. S. B. 113, 29, 1912.

Melitara juncolineella

Hunter, Pratt & Mitchell, U. S. B. 113, 25, 1912.

Melitara prodenialis

Hunter, Pratt & Mitchell, U. S. B. 113, 28, 1912.

Melittia satyriniformis

Barre & Conradi, S. C. B. 141, 39, 1909.

Bentley, Tenn. Agr. v. 2, No. 5, 173, '13.

Bentley, Tenn. Bd. Ent. R. f. '13, 35.

Britton, Conn. R. 8, 806, 1909.

Chittenden, Ins. Inj. Veg., 168, 1907.

Chittenden, U. S. C. 38, 2d Ed., 1, '08.

Conradi, Tex. B. 89, 27, 1907.

Ehrhorn, Cal. Fr. Grow., Dec. 12, 1908, 13.

Ehrhorn, Pac. Rur. Press, LXXVI, 388, 1908.

Fulton, Wright & Gregg, Pa. B. 110, 37, 1911.

Jarvis, Conn. Storrs B. 56, 268, 1909.

Lewis, Pr. Ga. Hort. Soc. f. 1912, 12.

Morman, C. Gentl., June 14, 1913, 913.

Newell & Smith, U. S. B. 52, 72, 1905.

O'Kane, Inj. Ins. 134, 1914.

Pettit, Mich. B. 233, 198, 1908.

Postiff, Mich. Farm., July 13, 1912, v. 139, p. 32.

Reed, Ga. Hort. Soc. f. 1914, 61.

Sanborn, Okla. B. 100, 52, 1912.

Sanderson, Ins. Pests, 393, 1912.

Slingerland & Crosby, N. Y. C. B. 252, 344, 1908.

Slingerland, Herrick & Crosby, N. Y. C. B. 283, 471, 1910.

Smith, Ga. Bd. Ent. B. 16, 42, 1905.

Smith, N. C. B. 197, 55, 1908.

Smith, N. C. B. 205, 23, 1910.

Surface, Pa. D. A. Zool. I, 1, 29, 1911.

Swenk, Nebr. Bd. Agr. R. f. 1908, 304.

Swenk, Nebr. Bd. Agr. R. f. 1910, 369.

Weiss, N. J. R., 1912, 441.

— Prai. Farm., May 25, 1905, 5.

— Rur. N. Y., 1913, 832.

— U. S. Y. B., 1907, 544.

— U. S. Y. B., 1908, 572.

Melittobia acasta

Howard & Fiske, U. S. B. 91, 209, 1911.

Meloe angusticollis

Patch, Me. B. 148, 278, 1907.

Melon aphid, see Aphis gossypii

Melon caterpillar, see Diaphania hyalinata

Melon insects

Bentley, Tenn. Agr., vol. 2, No. 5, 172, '13.

Melon worm, see *Diaphania hyalinata***Melophagus ovinus**

Gossard, Ohio P. B. 354, 1914.

Haimbach, Ent. News, 1907, 208.

Herns, Cal. Cult., XLI, 290, 1913.

Horne, Ind. Farm., Apr. 20, 1907, 7.

Jackson, Col. Rur. World, Mar. 29, 1905, 103.

Kaupp, Anim. Par. 25, 1905.

O'Kane, Inj. Ins. 376, 1914.

Ransom, U. S. Y. B., 1905, 144.

Shaw, Or. Judd Farm., May 25, '07, 688.

Surface, Pa. D. A. Zool. III, 1, 16, '13.

Swingle, Wyo. B. 99, 4, 1913.

Van Alstyne, Rur. N. Y., 1906, 487.

Van Alstyne, Rur. N. Y., 1907, 471.

Van Alstyne, Rur. N. Y., 1908, 159.

Van Alstyne, Rur. N. Y., 1909, 427.

Washburn, Minn. P. B. 22, 19, 1905.

—— Iowa Home., Feb. 9, 1905, 245.

—— Prai. Farm., Jan. 19, 1905, 2.

—— Prai. Farm., Feb. 9, 1905, 10.

Melophagus ovinus, parasite of

—— Jr. Infect. Dis., 1909, 98.

Memythrus asilipennis

Felt, N. Y. St. Mus. Mem. 8, 464, '06.

Memythrus dollii

Forbes, Ill. B. 151, 493, 1911.

Memythrus polistiformis

Baldwin, Ind. Ent. R. 5, 114, 1912.

Brooks, W. Va. B. 110, 19, 1907.

Brooks, W. Va. R. f. 1907-1908, 23.

Douglass, Ind. Ent. R. 3, 203, 1910.

O'Kane, Inj. Ins. 231, 1914.

Sanderson, Ins. Pests, 497, 1912.

Slingerland & Crosby, Man. Fr. Ins. 452, 1914.

—— U. S. Y. B., 1907, 547.

Memythrus simulans

Felt, N. Y. St. Mus. Mem. 8, 438, 1906.

Memythrus tricinctus

Felt, N. Y. St. Mus. Mem. 8, 471, 1906.

Forbes, Ill. B. 151, 493, 1911.

Forbes, Ill. Ent. R. 26, 31, 1911.

Menopon biserialum

Banks, U. S. C. 92, 7, 1907.

Ewing, Ore. Coll. B. 92, 10, 1913.

Kaupp, Colo. B. 185, 5, 1912.

Pearl, Surface & Curtis, Me. R. 27, App. Poultry, 126, 1911.

Menopon pallidum

Banks, U. S. C. 92, 4, 1907.

Bell, U. S. F. B. 287, 47, 1907.

Bentley, Tenn. Bd. Ent. R. f. '13, 31.

Black, O. Farm., Oct. 12, 1912, 333.

Couch, O. Farm., June 11, 1910, 722.

Dean, Kans. Farm., Feb. 4, 1911, 26.

Elford, Farm & Dairy, Can., Aug. 19, 1909, 9.

Ewing, Oreg. Coll. B. 92, 8, 1913.

Koethen, Cal. Cult., XLI, 267, 1913.

Metcalf, Cal. Cult., XXXIII, 134, 1909.

Pearl, Me. R. 29, App. Poultry, 67, '14.

Pearl, Surface & Curtis, Me. R. 27, App. Poultry, 126, 1911.

Pierce, S. W. Stockm., Oct. 15, 1909, 4.

Slingerland Rur. N. Y., 1906, 455.

Surface, Pa. D. A. Zool. III, 1, 29, 1913.

Washburn, Minn. P. B. 22, 26, 1905.

Wood, O. Farm., June 1, 1907, 576.

Woods, Kans. Bd. Agr. Quar. R., vol. XXVII, 107, 213, 1908.

—— Rur. N. Y., 1907, 694, 808.

—— Rur. N. Y., 1909, 312.

Merchant grain-beetle, see *Silvanus mercator***Mercuric chlorid**

Howard, U. S. B. 88, 39, 1910.

Mermis albicans

Chittenden, U. S. C. 62, 3, 1905.

Chittenden, U. S. C. 62, Rev. Ed., 1, '08.

Howard, U. S. R. Ent., 1905, 289.

Pettit, Mich. B. 233, 174, 1906.

Symons, U. S. B. 60, 84, 1906.

Merisus destructor

Felt, N. Y. R. 28, 39, 1913.

Webster, U. S. C. 70, 12, 1906.

Merisus mordellisteneae

Phillips, U. S. B. 95, 9, 1911.

Merodon equestris

Childs, Cal. Hort. B. III, 2, 73, 1914.

Hewitt, Ont. Ent. Soc. R. 41, 28, '11.

Norman, Pr. Ent. Soc. B. C., 1, 22, '11.

Treherne, Pr. Ent. Soc. B. C., 4, 31, '14.

Meromyza americana

Criddle, Nor'-West Farm., Dec. 20, 1907, 1157.

Criddle, J. Ec. Ent. IV, 236, 1911.

Criddle, Ont. Ent. Soc. R. 43, 98, 1913.

Dean, Kans. Agr. Educ. I, 4, 39, 1909.

Douglass, Ind. Ent. R. 4, 228, 1912.

Fletcher, Can. Exp. Farms B. 52, 14, '05.

- Fletcher, Farm. Advocate, Can., 1907, 1824.
 Gibson, Ont. Ent. Soc. R. 40, 10, 1910.
 Gibson, Ont. Ent. Soc. R. 41, 12, 1911.
 Lochhead, Syn. Ec. Ent. 89, 1914.
 O'Kane, Inj. Ins. 131, 1914.
 Pettit, Mich. B. 258, 313, 1910.
 Sanderson, Ins. Pests, 132, 1912.
 Swenk, Nebr. Bd. Agr. R. f. 1910, 363.
 Swenk, Nebr. Ent. B. 1, 65, 1913.
 Washburn, Minn. R. 10, 107, 1905.
 Washburn, U. S. B. 52, 56, 1905.
 Washburn, Minn. R. 14, 45, 1912.
 ——— U. S. Y. B., 1905, 634.
- Meromyza pratorum**
 ——— U. S. Y. B., 1908, 568.
- Meropus sp. on codling moth**
 Doten, Nev. B. 66, 36, 1908.
- Mesochorus agilis**
 Paddock, J. Ec. Ent. V, 442, 1912.
- Mesochorus americanus**
 Quaintance & Brues, U. S. B. 50, 122, 1905.
- Mesochorus electilis**
 Sanderson, U. S. B. 57, 13, 1906.
- Mesochorus nigripes**
 Webster, U. S. B. 112, 38, 1912.
- Mesochorus nigrisignis**
 Webster, J. Ec. Ent. V, 336, 1912.
- Mesochorus pallipes**
 Howard & Fiske, U. S. B. 91, 263, 1911.
- Mesocrina pegomyiae**
 Washburn, Minn. R. 12, 132, 1908.
- Mesogramma politum**
 Forbes, Ill. Ent. R. 23, 162, 1905.
- Mesoleius tenthredinis**
 Hewitt, Can. Exp. Farms Ent. B. 5, 25, 1912.
- Mesoleuca truncata**
 Treherne, Can. Exp. Farms Ent. B. 8, 43, 1914.
- Mestobregma kiowa**
 Bruner, U. S. B. 54, 64, 1905.
- Metachaeta helymus**
 Webster, J. Ec. Ent. IV, 181, 1911.
- Metachroma luridum**
 ——— U. S. Y. B., 1905, 636.
- Metachroma marginalis**
 Felt, N. Y. St. Mus. Mem. 8, 682, '06.
- Metadexia basalis**
 Brooks, W. Va. R. f. 1909-1910, 190.
 Brooks, W. Va. B. 128, 182, 1910.
- Metadontis amoena**
 Sanderson, U. S. B. 57, 42, 1906.
- Metapodius femoratus**
 Sanderson, U. S. B. 57, 47, 1906.
- Metalius rubi**
 Caesar, Ont. Ent. Soc. R. 43, 82, 1913.
 Crosby, J. Ec. Ent. V, 403, 1912.
 O'Kane, Inj. Ins. 310, 1914.
 Slingerland & Crosby, Man. Fr. Ins. 317, 1914.
- Meteorus archipsidis**
 Gill, U. S. B. 116, 102, 1913.
- Meteorus hyphantriae**
 Sanderson, Ins. Pests, 557, 1912.
 Smith, Nebr. Ins. Pest Bur. C. 5, 3, '08.
 Swenk, Nebr. Ins. Pest. Bur. C. 6, 4, '08.
- Meteorus japonicus**
 Howard & Fiske, U. S. B. 91, 190, '11.
- Meteorus pulchricornis**
 Howard & Fiske, U. S. B. 91, 190, '11.
- Meteorus sp. on beet caterpillar**
 Marsh, U. S. B. 127, 17, 1913.
- Meteorus versicolor**
 Britton, Conn. B. 182, 20, 1914.
 Burgess, U. S. F. B. 564, 11, 1914.
 Howard, U. S. R. Ent., 1911, 9.
 Howard, Mass. For. R. 8, 89, 1912.
 Howard, Mass. For. R. 9, 73, 1912.
 Howard, U. S. R. Ent., 1912, 11.
 Howard, U. S. R. Ent., 1914, 3.
 Howard & Fiske, U. S. B. 91, 190, 262, 286, 1911.
- Meteorus vulgaris**
 Chittenden & Marsh, U. S. B. 109, 31, 1912.
 Sanderson, U. S. B. 57, 10, 1906.
- Metzneria lapella**
 Gibson, Ott. Nat. XXVIII, 96, 1914.
- Mexican bean weevil, see** *Spermophagus pectoralis*
- Mexican cotton boll weevil, see** *Anthonomus grandis*
- Mexican gadfly, see** *Tabanus mexicanus*
- Mexican Hair Tonic and Nit Killer**
 ——— U. S. D. A. Ins. & Fung. Bd., Ins. 5, p. 77, 1914.
- Mexican katydid, see** *Scudderella mexicana*
- Mexican wax scale, see** *Ceroplastes ceriferus*
- Microbracon, see** *Bracon*
- Microcentrum laurifolium**
 Essig, Cal. Hort. B. II, 1-2, 21, 1913.

Microcentrum retinervis

—— C. Gentl., 1908, 984.

Microdontomerus anthonomi

Hunter & Pierce, U. S. B. 114, 141, '12.

Pierce, J. Ec. Ent. I, 119, 1908.

Pierce, U. S. B. 73, 28, 1908.

Pierce, U. S. B. 73, 32, 1908.

Pierce, U. S. B. 100, 49, 1912.

Microdus laticinctus

Hammar, U. S. B. 80, 41, 1909.

Microdus inediis

Marsh, U. S. B. 127, 17, 1913.

Microgaster auripes

Webster, J. Ec. Ent. IV, 181, 1911.

Webster, J. Ec. Ent. V, 335, 1912.

Micromus montanus

Felt, N. Y. St. Mus. Mem. 8, 697, '06.

Microparsus variabilis

Johannsen, Me. B. 177, 30, 1910.

Micrope sp. on codling moth

Doten, Nev. B. 66, 36, 1908.

Microphala vittata

Britton, Conn. R. 8, 844, 1909.

Microplitis alaskensis

Hyslop, U. S. B. 95, 115, 1912.

Microplitis catalpae

Howard & Chittenden, U. S. C. 96, 5, 1907.

Microplitis melianae

Webster, J. Ec. Ent. V, 335, 1912.

Microplitis nigripennis

Quaintance & Brues, U. S. B. 50, 121, 1905.

Microterys flavus

Timberlake, J. Ec. Ent. VI, 295, 1913.

Microterys sp.

Patch, Me. B. 121, 171, 1905.

Microtoma atrata

Forbes, Ill. Ent. R. 23, 198, 1905.

Microweisia misella

Britton, Conn. B. 165, 15, 1909.

Britton, Conn. B. 181, 8, 1914.

Burgess & Collins, U. S. Y. B., '11, 458.

Caesar, Ont. Agr. Coll. B. 219, 17, 1914.

Cotton, Ohio Nurs. Orch. Insp. B. 7, 33, 1906.

Cordley, Oreg. B. 88, 11, 1906.

Ewing, Oreg. B. 121, 64, 1914.

Fernald, Mass. B. 116, 6, 1907.

Hayhurst, Ark. B. 107, 377, 1911.

Marlatt, U. S. B. 62, 57, 63, 1906.

Quaintance, U. S. C. 124, 9, 1910.

Smith, N. J. R. f. 1904, 558, 584, 1905.

Smith, U. S. B. 52, 77, 1905.

Smith, N. J. R., 1906, 529.

Symons, Md. B. 101, 197, 1905.

Taylor, Mo. Fr. Exp. Sta. B. 18, 28, '08.

Tower, J. Ec. Ent. VII, 431, 1914.

Migratory locust, *see* *Melanoplus spretus*

Military bug, *see* *Hadromena militaris*

Milkweed aphid, *see* *Aphis nerii*

Mill insects

Chittenden, Amer. Miller, Sept. 1, 1912, 707.

Millipedes

Slingerland, Rur. N. Y., 1906, 892.

Milyas cinctus

Webster, U. S. B. 69, 60, 1907.

Webster, U. S. C. 113, 11, 1909.

Mimms culicidæ

Howard, U. S. B. 88, 33, 1910.

Mimorista flavidisimilis

Hunter, Pratt & Mitchell, U. S. B. 113, 20, 1912.

Mindarus abietinus

Patch, Me. B. 182, 243, 1910.

Patch, Me. B. 187, 20, 1911.

Patch, Me. B. 202, 160, 1913.

Mineola indigenella

Baldwin, Ind. Ent. R. 5, 70, 1912.

Britton, Conn. R. 11, 342, 1912.

Crandall, Ill. Hort. Soc. f. 1911, 341, '12.

Dean & Peairs, Kans. Agr. Educ. VI, 2, 45, 1913.

Douglass, Ind. Ent. R. 2, 64, 1910.

Douglass, Ind. Ent. R. 3, 119, 1910.

Garman, Ky. B. 133, 19, 1908.

Gossard, Ohio B. 164, 17, 1905.

Gossard, Ohio B. 198, 42, 1908.

Gossard, Ohio B. 233, 110, 1911.

Haseman, Mo. Hort. Soc., 1911, 238.

Lochhead, Syn. Ec. Ent. 52, 1914.

Moore, Wis. B. 190, 20, 1910.

O'Kane, Inj. Ins. 297, 1914.

Slingerland & Crosby, Man. Fr. Ins. 68, 1914.

Stedman, Mo. Hort. Soc., 1905, 54.

Swenk, Nebr. Hort. Soc., 1908, 146.

Swenk, Nebr. Hort. Soc., 1909, 76.

Williams, Nebr. Farm., June 7, '06, 507.

Mineola vaccinii

Franklin, Mass. B. 115, 3, 1907.

Franklin, Mass. B. 126, 1, 1908.

- Franklin, Wis. Cranb. Grow. Assoc.,
22nd Meet., 31, 1909.
- Franklin, Mass. R. 25, I, 226, 1913.
- Franklin & Morse, Mass. B. 150, 55, '14.
- Hardenburg, Wis. Cranb. Grow. Assoc.,
20th Meet., 4, 1907.
- Hardenburg, Wis. B. 159, 19, 1908.
- Hardenburg, & Malde, Wis. R. 24, 311,
1907.
- O'Kane, Inj. Ins. 326, 1914.
- Peltier, Wis. Cranb. Grow. Assoc.,
25th Meet., 10, 1912.
- Slingerland & Crosby, Man. Fr. Ins.
466, 1914.
- Smith, N. J. R., 1905, 576.
- Whitson, Sandsten, Haskins & Ramsey,
Wis. B. 119, 43, 1905.
- U. S. Y. B., 1908, 576.
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- Peach slug, see** *Caliroa amygdalina*
- Peach soft scale, see** *Eulecanium persicae*
- Peach-tree bark-beetle, see** *Phloeotribus liminaris*
- Peach tree borer, see** *Sanninoidea exitiosa*
- Peach twig-borer, see** *Anarsia lineatella*
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- Pear midge, see** *Contarinia pyrivora*
- Pear psylla, see** *Psylla pyricola*
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 Doane, J. Ec. Ent. V, 346, 1912.
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 Ainslie, U. S. B. 85, 88, 1910.
 Britton, Conn. R. 13, 228, 1914.
 Gill, U. S. B. 116, 102, 1913.
 Gossard, Fla. B. 79, 295, 1905.
 Haseman, Mo. B. 104, 324, 1912.
 Herrick, N. Y. C. B. 283, 1910, 62.
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 Johnson & Hammar, U. S. B. 116, 48, 1912.
 Patch, Me. B. 148, 265, 1907.
 Sanderson, Ins. Pests, 246, 1912.
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 Smith, N. J. R. 1907, 419.
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- Pimpla examiner**
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 Johannsen, Me. B. 210, 26, 1913.
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 Gill, U. S. B. 116, 102, 1913.
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 Howard & Fiske, U. S. B. 91, 137, 144, 1911.
 Patch, Me. B. 161, 340, 1908.
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 Howard & Fiske, U. S. B. 91, 238, '11.
- Pimpla porthetriae**
 Howard & Fiske, U. S. B. 91, 238, 1911.
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 Brodie, Ont. Ent. Soc. R. 37, 5, 1907.
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 Ainslie, U. S. B. 85, 88, 1910.
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 Pierce, U. S. B. 100, 52, 1912.

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 Doten, Nev. B. 66, 36, 1908.
- Pimpla sp. on plum curculio**
 Quaintance & Jenne, U. S. B. 103, 148, 1912.
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 Scott & Paine, U. S. D. A. B. 113, 11, '14.
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 Swenk, Nebr. Hort. Soc. B. 19, 14, '08.
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 Hammar, U. S. B. 115, 74, 1912.
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- Pine insects**
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Forbes, Ill. Ent. R. 23, 176, 1905.

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Hunter, Pratt & Mitchell, U. S. B. 113,
36, 1912.

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Conradi, U. S. B. 60, 69, 1906.

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Plum curculio, see Conotrachelus nenuphar

Plum gouger, see Anthonomus scutellaris

Plum insects

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Plutella maculipennis

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Chittenden, U. S. B. 66, 64, 1909.
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Felt, N. Y. St. Mus. Mem. 8, 607, 1906.
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Smith, N. J. R., 1908, 331.
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- Pogonomymex occidentalis**
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Headlee, Kans. B. 155, 338, 1908.
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Holloway, J. Ec. Ent. V, 452, 1912.
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Cooley, Mont. B. 88, 86, 1912.
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Chittenden, U. S. B. 66, 64, 1909.
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Hunter, Pratt & Mitchell, U. S. B. 113, 36, 1912.
- Polistes pallipes**
Quaintance, U. S. C. 102, 7, 1908.
- Polistes rubiginosus**
Hunter, Pratt & Mitchell, U. S. B. 113, 36, 1912.
- Polistes sp.**
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Hunter, Pratt & Mitchell, U. S. B. 113, 36, 1912.
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Britton, Conn. R. 10, 710, 1911.
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Essig, Cal. Hort. B. II, 7, 587, 1913.
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 Gossard & Houser, Ohio B. 177, 31, '06.
 Howard & Fiske, U. S. B. 91, 21, 1911.
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Felt, N. Y. St. Mus. Mem. 8, 636, '06.
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- Sherman, N. C. Dept. Agr. B., 32, 7, 30, 1911.**
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Essig, Cal. Hort. B. II, 1-2, 210, 1913.
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Hopkins, U. S. B. 58, 65, 1909.
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Gossard, Ohio B. 264, 30, 1913.
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Wildermuth, U. S. D. A. B. 124, 21, '14.
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Felt, N. Y. St. Mus. Mem. 8, 553, 1906.

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Felt, N. Y. St. Mus. Mem. 8, 570, 1906.

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Washburn, U. S. B. 67, 15, 1907.

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- Red grain-beetle, see** *Cathartus gemellatus*
- Red-headed clytus, see** *Neoclytus erythrocephalus*
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- Red-legged locust, see** *Melanoplus femur-rubrum*
- Red mite of poultry, see** *Dermanyssus gallinae*
- Red-necked cane-borer, see** *Agrilus ruficollis*
- Red scale, see** *Chrysomphalus aurantii*
- Red-shouldered plant-bug, see** *Thyanta custator*
- Red-shouldered twig-borer, see** *Sinoxylon basillare*
- Red spider, see** *Tetranychus bimaculatus*
- Red-tailed bot-fly, see** *Gastrophilus haemorrhoidalis*
- Red turnip beetle, see** *Entomoscelis adonidis*
- Red turpentine beetle, see** *Dendroctonus valens*
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Schizoneura ulmi

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- Smith, Cal. Hort. B. III, 11, 535, 1914.

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- Bremner, Cal. Hort. Comm. Destr.
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- Garrett, La. B. 121, 16, 1910.

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- Sanborn, Okla. B. 98, 13, 1912.

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- Schwarz, U. S. B. 54, 75, 1905.
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- Essig, Cal. Hort. B. II, 1-2, 219, 1913.
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- Morrill & Back, U. S. B. 102, 9, 1912.

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- Chittenden, U. S. C. 104, 6, 1909.
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- Britton, Conn. B. 181, 6, 1914.
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- Essig, Pom. Jr. Ent. III, 520, 610, 1911.
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- Ewing, Oreg. B. 121, 53, 1914.
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- Selandria obsoletum**
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- Selandria cerasi**, *see* **Caliroa**
- Selandria rubi**, *see* **Monophadnoides**
- Selandria vitis**
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- Semasia nigricans**, *see* **Cydia**
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- Semiotellus isosomatis**
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- Sepsis violacea**
Howard, U. S. C. 71, 3, 1906.
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- Serica fimbriata**
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- Sericothrips apteris**
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- Serropalpus barbatus**
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- Sesia bolteri**
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- Sesia corni**
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- Sesia corusca**
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- Sesia pyri**
Gossard, Ohio B. 233, 115, 1911.
Slingerland & Crosby, Man. Fr. Ins. 232, 1914.
- Sesia rubristigma**
Felt, N. Y. St. Mus. Mem. 8, 437, 1906.
- Sesia rutilans**
Essig, Cal. Hort. B. II, 1-2, 190, 1913.
O'Kane, Inj. Ins. 234, 1914.
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Worsham, Ga. Bd. Ent. B. 33, 120, 1910.
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Smith, U. S. B. 67, 105, 1907.
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Baldwin, Ind. Ent. R. 5, 126, 1912.
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Hedrick, Mass. Bd. Agr. C. 14, 7, 1914.
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- Sapp, Farm. Guide, July 25, 1914, 5.
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- Farm. Guide, May 20, 1905, 16.

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- U. S. D. A. Ins. & Fung. No. 144, 1914.

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- U. S. D. A. Ins. & Fung. No. 83, 1913.

Shining excrement fly, see *Morellia micans***Shoo-Fly, The Animal's Friend**

- U. S. D. A. Ins. & Fung. No. 39, 1912.

Shore pine hylesinus, see *Hylesinus sericeus***Short-nosed ox-louse, see *Haematopinus eurytenuis*****Short-winged mole-cricket, see *Scapteriscus abbreviatus*****Shot-borer, see *Xyleborus dispar*****Shot-hole borer, see *Scolytus rugulosus*****Sibine stimulea**

- Felt, N. Y. R. 21, 94, 1906.
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 ——— U. S. Y. B., 1905, 633.

Sigalphus curculionis

- Brooks, W. Va. R. f. 1909-'10, 137, 190.
 Conradi & Thomas, S. C. B. 143, 27, '09.
 Hunter & Hinds, U. S. B. 51, 145, 1905.
 Hunter & Pierce, U. S. B. 114, 142, 1912.
 Johnson & Girault, U. S. C. 73, 6, 1906.
 Pierce, U. S. B. 73, 29, 38, 1908.
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Sigalphus curculionis* var. *rufus

- Quaintance & Jenne, U. S. B. 103, 146, 1912.

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- Essig, Cal. Hort. B. II, 1-2, 277, 1913.
 Quayle, Cal. B. 222, 137, 1911.
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Signiphora pulchra

- Zimmer, U. S. B. 97, 120, 1912.

***Sigalphus* sp.**

- Ainslie, U. S. B. 85, 141, 1910.

Sigalphus virginianensis

- Smith, N. J. B. 225, 16, 1909.

Silpha bituberosa

- Cooley, Mont. R. 12, 261, 1906.
 Cooley, Mont. B. 92, 60, 1912.
 Fletcher, Can. Exp. Farms B. 52, 44, '05.

Silpha opaca

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 Symons, Md. B. 101, 169, 1905.
 Whitmarsh, Ohio B. 253, 145, 1912.
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- Silver fish, see Lepisma**
Silver mite, see Eriophyes oleivorus
Simplemphytus pacificus
 Wilson, Oreg. Bien. Crop Pest R. f. 1913-1914, 121.
- Simuliidae**
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 Forbes, Ill. Ent. R. 27, 31, 1912.
- Simulium hirtipes**
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 Johannsen, Me. B. 187, 4, 1911.
 Sanderson, J. Ec. Ent. III, 27, 1910.
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 Forbes, Ill. Ent. R. 27, 31, 1912.
- Simulium meridionale**
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 Bishopp, U. S. Y. B., 1912, 383.
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 Forbes, Ill. Ent. R. 27, 42, 1912.
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 Gossard, Ohio C. 140, 12, 1914.
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 ——— U. S. Y. B., 1907, 549.
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- Sipha flava**
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Sitones flavescens

Folsom, Ill. Ent. R. 25, 112, 1909.

Folsom, Ill. B. 134, 184, 1909.

Gossard, Ohio B. 233, 81, 1911.

O'Kane, Inj. Ins. 167, 1914.

Pettit, Mich. B. 258, 280, 1910.

Sitones hispidulus

Gossard, Ohio B. 233, 81, 1911.

Parrott, N. Y. Dept. Agr. B. 62, 1830, 1914.

Pettit, Mich. R. 53, 232, 1914.

Wildermuth, U. S. B. 85, 29, 1910.

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Sitotroga cerealella

Bentley, Tenn. Dept. Agr. Bien. R., 1909-1910, 52.

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Conradi, U. S. B. 60, 69, 1906.

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Derr, U. S. F. B. 443, 45, 1911.

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Essig, Cal. Hort. B. II, 1-2, 172, 1913.

Felt, C. Gentl., 1909, 907, 1025.

Gee, S. C. B. 170, 13, 1912.

Gibson, Can. Ent., 1905, 234.

Girault, Ill. B. 156, 69, 1912.

Girault, Ill. Ent. R. 27, 58, 1912.

Gossard, Ohio B. 233, 85, 1911.

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Hinds, Ala. Poly. B. 176, 52, 1914.

Newell, Tex. P. B., 1910.

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Pettit, Mich. B. 258, 298, 1910.

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Smith, N. J. Bd. Agr. R. 37, 187, 1910.

Stedman, Mo. Bd. Agr. R. 38, 330, 1906.

Surface, Pa. D. A. Zool. III, 1, 7, 1913.

Swenk, Nebr. Ent. B. 1, 104, 1913.

Symons, Md. B. 101, 167, 1905.

Symons, Md. B. 137, 1, 1909.

Tucker, Kans. Farm., Feb. 9, 1905, 148.

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Sixeonotus luteiceps

Hunter, Pratt & Mitchell, U. S. B. 113, 36, 1912.

"Sha-Kill"

Surface, Pa. Dept. Agr. R. 13, 303, 1907.

Slender-horned flour-beetle*, see *Echocerus maxillosus***Slender seed-corn ground-beetle*, see *Clivina impressifrons***

Slugs

Smith, N. J. B. 181, 43, 1905.

Small-eyed flour-beetle, see *Palorus ratzburgi*

Small gray leaf-weevil, see *Thricolepsis inornata*

Small green rose aphid, see *Myzus rosarum*

Smaller corn stalk-borer, see *Elasmopalpus lignosellus*

Smearred dagger, see *Acronycta oblongata*

Smicraulax tuberculatus

Pierce, U. S. B. 100, 76, 1912.

Smicronyx tychoideus

Pierce, U. S. B. 100, 75, 1912.

Smilia misella, see* *Microweisia

Smynthurus albamaculata

Patch, Me. B. 123, 220, 1905.

Patch, Me. B. 134, 225, 1906.

Patch, Me. B. 187, 24, 1911.

Smynthurus arvalis

Felt, N. Y. R. 27, 103, 1912.

***Smynthurus* sp.**

Fink, J. Ec. Ent. VII, 400, 1914.

Snowy tree-cricket, see *Oecanthus niveus*

Soap solution

Sherman, N. C. Dept. Agr. B. June, 1909, 19.

Smith, N. J. R., 1907, 456.

Smith, N. J. B. 213, 23, 1908.

Soap washes

Harcourt & Fulmer, Ont. Agr. Coll. B. 154, 21, 1907.

Social grape caterpillar, see *Harrisina americana*

Soda wash

Doten, Nev. B. 66, 26, 1908.

Sodium cyanide

Easig, Pom. Jr. Ent. III, 385, 1911.

Woglum, J. Ec. Ent. III, 85, 1910.

Woglum, U. S. B. 90, 83, 1912.

Soft brown scale, see *Coccus hesperidum*

Soft scale, see *Coccus hesperidum*

Soil fumigant and insecticide

Fernald, Mass. R. 25, I, 90, 1913.

Soil fumigation

Hyslop, J. Ec. Ent. VII, 305, 1914.

Solenopsis debilis

Brooks, W. Va. R. f. 1909-1910, 190.

Swenk, Nebr. Bd. Agr. R. f. 1909, 246.

Vickery, U. S. B. 85, 106, 1910.

Solenopsis geminata

Hinds, U. S. B. 74, 24, 1907.

Hinds, Ala. Poly. R. 20, 37, 1908.

Hooker, Bishopp & Wood, U. S. B. 106, 42, 1912.

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Howard, U. S. R. Ent., 1908, 7.

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Newell, La. Crop Pest Comm. C. 13, 8, 1907.

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Pierce, U. S. B. 100, 70, 1912.

Vickery, U. S. B. 85, 116, 1910.

Solenopsis geminata* var. *xyloni

Hinds, U. S. B. 63, 45, 1907.

Solenopsis molesta

Hunter & Pierce, U. S. B. 114, 140, 1912.

Pierce, U. S. B. 100, 70, 1912.

Vickery, U. S. B. 85, 116, 1910.

Solenopsis tenuis

Buck, Va. R. f. 1908, 67.

Solenopsis texana

Hunter & Pierce, U. S. B. 114, 140, 1912.

Pierce, U. S. B. 100, 70, 1912.

Quaintance & Brues, U. S. B. 50, 108, 1905.

Solenopsis validiusculus

Jenne, U. S. B. 80, 30, 1909.

Soluble oil

Britton & Walden, Conn. R. f. 1907-1908, 837.

Gossard, Ohio C. 60, 1906.

Jarvis, Can. Hort. XXXIV, 28, 1911.

Morrill, Nat'l Fr. Grow., Nov. 1906, 7.

Parrott, N. Y. Fr. Grow. Assoc., 1906, 25, 134.

Phillips, South. Plant., Dec., 1908, 1066.

Sherman, N. C. Dept. Agr. B. June 1912, 21.

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Taft & Shaw, Mich. Sp. B. 45, 396.

Worsham, Pr. Ga. Hort. Soc., 1908, 73.

Soluble sulphur

Mitchell, Can. Hort. XXXVII, 91, 92, 1914.

Smith, N. J. R., 1909, 366.

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- Sorghum* midge, *see* *Contarinia sorghicola*
- Southern buffalo gnat, *see* *Simulium pecuarum*
- Southern cabbage butterfly, *see* *Pontia protodice*
- Southern cabbage worm, *see* *Pontia protodice*
- Southern corn root-worm, *see* *Diabrotica duodecempunctata*
- Southern hornworm, *see* *Phlegethontius sexta*
- Southern leaf-footed plant-bug, *see* *Lep-toglossus phyllopus*
- Southern pine beetle, *see* *Dendroctonus frontalis*
- Southern pine sawyer, *see* *Monohammus titillator*
- Southern tobacco worm, *see* *Phlegethontius sexta*
- Southwestern pine beetle, *see* *Dendroctonus barberi*
- Spalangia hirta*
Marlatt, U. S. C. 115, 7, 1910.
- Spalangia lanaiensis*
Marlatt, U. S. C. 115, 7, 1910.
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Bishopp, J. Ec. Ent. VI, 124, 1913.
- Spalangia muscidarum*
Bishopp, U. S. F. B. 540, 23, 1913.
Pinkus, Psyche, 1913, 148.
Richardson, Psyche, 1913, 38.
- Spalgis substrigata*
Smith, Cal. Hort. III, 1, 27, 1914.
- Sparganothis flavibasana*
Gibson, Ont. Ent. Soc. R. 36, 121, 1906.
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- Sparnopolius fulvus*
Forbes, Ill. B. 116, 473, 1907.
Forbes, Ill. Ent. R. 24, 161, 1908.
- Spermophagus robiniae*
Pierce, U. S. B. 100, 74, 1912.
- Speckled cutworm, *see* *Mamestra sub-juncta*
- Sphaerophoria cylindrica*
Chittenden, Va. Truck Exp. Sta. B. 2, 24, 1909.
Herrick, J. Ec. Ent. IV, 222, 1911.
Herrick & Hungate, N. Y. C. B. 300, 736, 1911.
Webster & Phillips, U. S. B. 110, 131, 1912.
- Sphaerophoria melanosa*
Davidson, U. S. D. A. B. 100, 37, 1914.
- Sphaerophoria sulphuripes*
Davidson, U. S. D. A. B. 100, 37, 1914.
Russell, U. S. B. 118, 41, 1912.
- Sphaeropyx bicolor*
Cushman, Pr. Ent. Soc. Wash. XV, 157, 1913.
- Sphaerostilbe coccophila*
Lewis, Pr. Ga. Hort. Soc., 1908, 81.
Rolf, Ind. Farm., Apr. 23, 1910, 16.
Smith, Pr. Ga. Hort. Soc., 1907, 150.
Smith, N. J. R., 1908, 334.
Smith, J. Ec. Ent. I, 157, 1908.
Stewart, N. Y. St. B. 328, 321, 1910.
- Sphecius nevadensis*
Quaintance, U. S. Y. B., 1907, 443.
- Sphecius speciosus*
Felt, N. Y. St. Mus. Mem. 8, 603, 1906.
Marlatt, U. S. B. 71, 132, 1907.
Smith, N. J. R., 1908, 332.
- Sphecodina abbotti*
O'Kane, Inj. Ins. 273, 1914.
Sanderson, Ins. Pests, 520, 1912.
- Sphenophorus aequalis*
Webster, U. S. Y. B., 1908, 384.
- Sphenophorus callosus*
Morrill, Ariz. Comm. Agr. & Hort. R. 6, 33, 1914.
Sherman, N. C. Dept. Agr. B., 26, 5, 19, 1905.
Smith, N. C. R. 35, 106, 1912.
Webster, U. S. B. 95, 53, 1912.
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- Sphenophorus discolor*
Smith, Cal. Hort. B. II, 8, 619, 1913.
- Sphenophorus maidis*
Chittenden, Ins. Inj. Veg. 196, 1907.
Kelly, U. S. B. 95, 11, 1911.
O'Kane, Inj. Ins. 128, 1914.
Sanderson, Ins. Pests, 178, 1912.
- Sphenophorus obscurus*
Maskew, Cal. Hort. B. II, 9, 653, 1913.
Sanderson, Ins. Pests, 175, 1912.
- Sphenophorus ochreus*
Stedman, Mo. Bd. Agr. R. 38, 286, 1906.
Washburn, Minn. R. 14, 74, 1912.
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Hunter, Pr. Ent. Soc. Wash. XIV, 62, 1912.
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- Sphenophorus pertinax**
 Stedman, Mo. Bd. Agr. R. 38, 286, 1906.
- Sphenophorus sculptilis**
 Pettit, Mich. B. 233, 205, 1906.
 Pettit, Mich. B. 258, 293, 1910.
- Sphenophorus sp.**
 Dean, Kans. Agr. Educ. I, 4, 18, 1909.
 Forbes, Ill. Ent. R. 24, 1, 1908.
 Price, Va. C. 7, 69, 1909.
 Sanborn, Okla. B. 100, 30, 1912.
 Watson, Fla. R., 1912, LXIII.
 Weldon, Md. Hort. Soc., 1907, 66, 1908.
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 Forbes, Ill. Ent. R. 23, 52, 1905.
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- Sphenophorus zeae**
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- Sphinx atropos**
 Howard, U. S. B. 54, 81, 1905.
- Sphinx drupiferarum**
 Brittain, Pr. Ent. Soc. B. C., 4, 15, 1914.
 O'Kane, Inj. Ins. 274, 1914.
- Sphinx eremitus**
 Gibson, Ont. Ent. Soc. R. 36, 119, 1906.
- Sphinx gordius**
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- Sphinx kalmiae**
 Felt, N. Y. St. Mus. Mem. 8, 548, 1906.
- Sphragisticus nebulosus**
 Forbes, Ill. Ent. R. 23, 198, 1905.
- Spider on lawns**
 Tucker, Kans. Farm., Aug. 9, 1906, 831.
- Spiders, bite of**
 Herrick, Rur. N. Y., 1912, 994.
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- Spiders vs. borers**
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- Spiders in house**
 Felt, C. Gentl., 1906, 1003.
- Spilochalcis odontotae**
 Cotton, Ohio Nurs. Orch. Insp. B. 7, 18, 1906.
- Spilochalcis vittata**
 Gossard, Fla. B. 79, 288, 1905.
- Spilochalcis mariae**
 Howard & Chittenden, U. S. C. 97, 7, 1908.
- Spilochalcis sp. on boll weevil**
 Hunter & Pierce, U. S. B. 114, 141, 1912.
 Pierce, U. S. B. 100, 49, 1912.
- Spilochalcis torvina**
 Titus, U. S. B. 54, 40, 1905.
- Spilonota ocellana**, *see* *Tmetocera*
- Spilosoma virginica**, *see* *Diacrisia*
- Spinach aphid**, *see* *Myzus persicae*
- Spinach flea-beetle**, *see* *Disonychia xanthomelaena*
- Spinach leaf-miner**, *see* *Pegomyia vicina*
- Spiny oak worm**, *see* *Anisota stigma*
- Spittle insects**
 Britton, Conn. R. 13, 255, 1914.
- Spotless fall webworm**, *see* *Hyphantria textor*
- Spotted blister beetle**, *see* *Epicauta maculata*
- Spotted cutworm**, *see* *Noctuac-nigrum*
- Spotted fever**
 Cooley, Mont. B. 85, 6, 1911.
 Cooley, Mont. B. 88, 92, 1912.
 Fricks, Mont. Bd. Bien. R. 1, 28, 1914.
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- Spotted fever tick**, *see* *Dermacentor venustus*
- Spotted ladybird**, *see* *Megilla maculata*
- Spotted milkweed bug**, *see* *Oncopeltus fasciatus*
- Spotted pelidnota**, *see* *Pelidnota punctata*
- Spotted root fly**, *see* *Euxesta notata*
- Spotted strawberry leaf-beetle**, *see* *Typhoporus canellus*
- Spotted willow leaf-beetle**, *see* *Melasoma lapponica*
- Spray calendar**
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 Lovett, Okla. B. 92, 1911.
 Melander, Better Fr., Feb., 1909, 23.
 Melander & Beattie, Wash. Pop. B. 13, 1909.
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 Sanborn, Tex. B. 113, 5, 1908.
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 Smith, Ga. Bd. Ent. B. 19, 157, 1906.
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- Hopkins, U. S. C. 128, 3, 1910.
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- Dean, Kans. Farm., Apr. 22, 1908, 515.

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- Holloway, U. S. C. 171, 7, 1913.

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Tetralopha militella

- U. S. Y. B., 1907, 549.

Tetramorium caespitum

- Felt, N. Y. St. Mus. B. 129, 31, 1909.
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- Patch, Me. B. 181, 208, 1910.

Tetraneura ulmi

- Patch, Me. B. 181, 219, 1910.
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- Patch, Me. B. 181, 216, 1910.

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Triangular flea-beetle, see Disonychia triangularis**Triaspis curculionis, see Sigalphus****Tribolium confusum**

- Chittenden & Pratt, U. S. B. 54, 69, '05.
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 Howard, U. S. B. 54, 80, 1905.
 O'Kane, Inj. Ins. 364, 1914.
 Parker, U. S. D. A. B. 15, 1, 1913.
 Smith, N. J. B., 203, 31, 1907.
 Surface, Pa. D. A. Zool. III, 1, 18, 1913.
 Whitmarsh, Ohio B. 253, 146, 1912.
 ——— U. S. Y. B., 1908, 579.

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- Felt, N. Y. St. Mus. B. 129, 38, 1909.
 Felt, N. Y. St. Mus. B. 136, 44, 1912.
 Herrick, Household Ins. 251, 1914.
 Hinds, Ala. Poly. B. 170, 52, 1914.
 Surface, Pa. D. A. Zool. III, 1, 18, 1913.
 Tucker, Can. Ent., 1911, 27.
 ——— U. S. Y. B., 1908, 579.

Tribolium navale

- O'Kane, Inj. Ins. 364, 1914.
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Trichiocampus viminalis

- Britton, Conn. R. 13, 256, 1914.
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Trichiosoma tibialis

- Felt, N. Y. R. 28, 104, 1913.

- Triclistus pygmaeus**
Herrick, N. Y. C. B. 311, 291, 1912.
- Trichobaris compacta**
Pierce, U. S. B. 100, 79, 1912.
- Trichobaris texana**
Pierce, U. S. B. 73, 47, 1908.
Pierce, U. S. B. 100, 79, 1912.
- Trichobaris trinotata**
Army, Or. Judd Farm., Apr. 20, '12, 614.
Army, Am. Agric. May 4, 1912, 626.
Baldwin, Ind. Ent. R. 6, 43, 1914.
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Conradi, Tex. B. 89, 36, 1907.
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Swenk, Nebr. Bd. Agr. R. f. 1910, 368.
Symons, Md. R. 101, 174, 1905.
—— U. S. Y. B., 1908, 572.
- Trichocera regelationis**
Johannsen, Me. B. 177, 34, 1910.
Patch, Me. B. 148, 278, 1907.
- Trichochrous texanus**
Hunter, Pratt & Mitchell, U. S. B. 113, 32, 1912.
- Trichodectes parumpilosus**
Surface, Pa. D. A. Zool. III, 1, 13, 1913.
- Trichodectes scalaris**
Ransom, U. S. B. An. I. R., 1908, 500.
Surface, Pa. D. A. Zool. III, 1, 13, 1913.
- Trichogramma cerasarum**
Cotton, Ohio Nurs. Orch. Insp. B. 7, 32, 1906.
- Trichogramma minutum**
Holloway, La. Plant., Dec. 20, '13, 416.
Russell, Pr. Ent. Soc. Wash. XV, 93, 1913.
Wildermuth, U. S. D. A. B. 124, 19, 1914.
- Trichogramma odontotae**
Cotton, Ohio Nurs. Orch. Insp. B. 7, 18, 1906.
- Trichogramma pretiosa**
Ainslie, U. S. C. 116, 7, 1910.
Ainslie, U. S. F. B. 634, 7, 1914.
Garman & Jewett, Ky. B. 187, 578, 1914.
Girault, Psyche, 1906, 137.
Girault, Jr. N. Y. Ent. Soc. XV, 57, 116, 1907.
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Johnson & Hammar, U. S. B. 116, 28, 48, 1912.
Jones & Davidson, U. S. B. 115, 160, '13.
Morrill, Ariz. Comm. Agr. & Hort. R. 6, 40, 1914.
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Quaintance & Brues, U. S. B. 50, 115, 1906.
Reed, Ga. Bd. Ent. B. 29, 19, 1909.
Sanderson, Ins. Pests, 245, 1912.
Taylor, Colo. B. 119, 4, 1906.
Taylor, Colo. R. 19, 149, 1906.
—— Better Fr., Oct. 1910, 53.
- Trichogramma sp.**
Britton, Conn. B. 182, 20, 1914.
- Trichogramma sp. on brown-tail**
Tothill, Ont. Ent. Soc. R. 43, 58, 1913.
- Tricholyga grandis**
Howard & Fiske, U. S. B. 91, 229, 1911.
- Trichophaga tapetzella**
Felt, N. Y. St. Mus. B. 129, 24, 1909.
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Lochhead, Syn. Ec. Ent. 51, 1914.
Marlatt, U. S. C. 36, 2nd Ed., 5, 1908.
- Trichopoda pennipes**
Chittenden, U. S. C. 39, 2nd Ed., 4, '08.
Morrill, U. S. B. 86, 92, 1910.
- Trichostibus parvula**
Watson, Fla. R., 1913, LXX.
- Trifidaphis radicola**
Essig, Cal. Hort. B. II, 1-2, 58, 1913.
- Trimerotropis citrina**
Metcalf, N. C. Dept. Agr. Sp. B. 59, '09.
- Trimerotropis vinculata**
Wilson, Oreg. Bien. Crop Pest R. f. 1913-1914, 134.
- Trinoton lituratum**
Ewing, Oreg. Coll. B. 92, 12, 1913.

Trinoton luridum

Ewing, Oreg. Coll. B. 92, 10, 1913.

Trioxa alacris

Crawford, Cal. Hort. I, 3, 86, 1912.

Trioxa obtusa

Patch, Me. B. 187, 18, 1911.

Trioxa tripunctata

Felt, N. Y. St. Mus. Mem. 8, 688, 1906.
Slingerland & Crosby, Man. Fr. Ins.
322, 1914.

Smith, N. J. R., 1911, 416.

Triphleps insidiosus

Chittenden, U. S. Y. B., 1912, 322.
Ewing, Oreg. B. 121, 55, 1914.
Folsom, Ill. B. 134, 123, 1909.
Forbes, Ill. Ent. R. 23, 202, 1905.
Garman & Jewett, Ky. B. 187, 587, 1914.
Hooker, U. S. B. 65, 14, 1907.
McGregor, U. S. C. 150, 8, 1912.
McGregor, U. S. C. 172, 15, 1913.
McGregor, J. Ec. Ent. VII, 330, 1914.
Morrill, U. S. B. 86, 64, 1910.
Parker, U. S. B. 111, 23, 1913.
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1905.
Quayle, Cal. B. 234, 516, 1912.
Russell, U. S. B. 118, 42, 1912.
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Triphleps sp. on Agromyza

Webster & Parks, J. Agr. Res. I, 83, '13.

Triphleps tristicolor

Parker, U. S. B. 117, 19, 1913.

Triphylus humeralis

Felt, N. Y. St. Mus. Mem. 8, 405, 1906.

Trirhabda canadensis

Britton, Conn. R. 8, 844, 1909.

Trirhabda brevicollis

Watson, Fla. R. 1913, LXV.

Trissolcus euschisti

Morrill, U. S. B. 86, 78, 1910.

Trissolcus murgantiae

Chittenden, U. S. C. 103, 6, 1908.

Trissolcus podisi

Quaintance, U. S. C. 103, 6, 1908.

Tritoma thoracica

Felt, N. Y. St. Mus. Mem. 8, 494, 1906.

Tritoxa flexa

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Chittenden, U. S. Y. B., 1912, 329.
Smith, N. J. R., 1908, 355.

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Tritoxa incurva

Chittenden, U. S. B. 64, 38, 1908.

Trochilium fraxini

Swenk, Nebr. Hort. Soc., 1909, 104.

Troctes divinatoria

Chittenden, Amer. Mill., Oct. 1, 1909,
783.

Cooley, Mont. B. 98, 123, 1914.

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Herrick, Household Ins. 379, 1914.

Morgan, U. S. Y. B., 1910, 295.

Washburn, U. S. B., 60, 86, 1906.

Troctes sp.

Whitmarsh, Ohio B. 253, 132, 1912.

Trogoderma tarsale

Dean, Kans. B. 189, 230, 1913.

Houghton, J. Ec. Ent. I, 216, 1908.

Quaintance, U. S. Y. B., 1907, 443.

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367, 1912.

Trogosita sp. on Codling moth

Caesar, Ont. Agr. Coll. B. 187, 25, 1911.

Trogus exesorius

Chittenden, U. S. B. 82, 23, 1909.

Trogus exidianator

Chittenden, U. S. B. 82, 23, 1909.

Trombidium holosericeum

Kaupp, Colo. B. 185, 10, 1912.

Trombidium locustarum

Jarvis, Can. Ent., 1906, 349.

Jarvis, Ent. Soc. Ont. R. 37, 111, 1907.

Patch, Me. B. 162, 366, 1908.

Sanderson, Ins. Pests, 105, 1912.

Webster, U. S. C. 84, 5, 1907.

Wilson, Oreg. Bien. Crop Pest R. f.
1913-1914, 136.

Trombidium scabrum

Smith, N. J. R., 1908, 351.

Washburn, U. S. B. 67, 15, 1907.

Trombidium sericium

Smith, N. J. R., 1909, 381.

Trombidium sp.

Dietz, Ind. Ent. R. 5, 185, 1912.

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1905.

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Tropea luna

Felt, N. Y. St. Mus. Mem. 8, 526, 1906.

- Trypeta aequalis**
 Popenoe, Kans. Farm., July 12, '06, 724.
- Trypeta canadensis**, *see* **Epochra**
- Trypeta ludens**, *see* **Anastrepha**
- Trypeta pomonella**, *see* **Rhagoletis**
- Trypodendron lineatus**
 Swaine, Ont. Ent. Soc. R. 43, 89, 1913.
- Trypodendron retusus**
 Swaine, Ont. Ent. Soc. R. 43, 89, 1913.
- Trypopremnon latithorax**
 Marlatt, U. S. Fed. Hort. Bd. R. 8, 1914.
- Tufted tent-caterpillar**, *see* **Malacosoma constricta**
- Tulip soft scale**, *see* **Eulecanium tulipifera**
- Turkey gnat**, *see* **Simulium meridionale**
- Turkey pests**
 Gilbert, Mich. Farm., May 10, '13, 568.
- Turkeys and grasshoppers**
 Brunenkant, S. W. Stockm., Sept. 4, 1914, 3.
- Turnip louse**, *see* **Aphis pseudobrassicae**
- Turpentine borer**, *see* **Buprestis apicans**
- Turtles**, *insect food of*
 Surface, Pa. D. A. Zoöl. VI, 4 & 5, 1908.
- Tussock moth**, *see* **Hemerocampa**
- Twelve-spotted asparagus beetle**, *see* **Crioceris duodecimpunctata**
- Twelve-spotted cucumber beetle**, *see* **Diabrotica duodecimpunctata**
- Twig-borer**, *see* **Polycaon confertus**
- Twig-girdler**, *see* **Oncideres cingulata**
- Twig-pruner**, *see* **Elaphidion villosum**
- Two-lined chestnut borer**, *see* **Agrilus bilineatus**
- Two-spotted ladybird**, *see* **Adalia bipunctata**
- Two-spotted mite**, *see* **Tetranychus bimaculatus**
- Two-striped grasshopper**, *see* **Melanoplus bivittatus**
- Two-striped leaf-beetle**, *see* **Luperodes bivittatus**
- Two-striped locust**, *see* **Melanoplus bivittatus**
- Two-striped sweet-potato beetle**, *see* **Cassida bivittata**
- Two-striped walking-stick**, *see* **Anisomorpha buprestoides**
- Tychea brevicornis**
 Chittenden, Ins. Inj. Veg., 130, 1907.
 O'Kane, Inj. Ins. 115, 1914.
 Sanderson, Ins. Pests, 331, 1912.
- Titus, Deseret Farm., Mar. 28, 1908, 7.
 ——— U. S. Y. B., 1908, 571.
- Tychius sordidus**
 Pierce, U. S. B. 100, 77, 1912.
- Tydeus coccophagus**
 Ewing, Psyche, 1912, 128.
- Tyloderma foveolatum**
 Pierce, U. S. B. 73, 47, 1908.
 Pierce, U. S. B. 100, 78, 1912.
- Tyloderma fragariae**
 Adams, Ark. B. 92, 15, 1907.
 Baldwin, Ind. Ent. R. 5, 122, 1912.
 Barre & Conradi, S. C. B. 141, 48, 1909.
 Bremner, Cal. Hort. Comm. Destr. Ins., 1910, 14.
 Chandler, Mo. B. 102, 263, 1912.
 Dean & Peairs, Kans. Agr. Educ. VI, 2, 121, 1913.
 Gillette, Colo. B. 114, 27, 1906.
 Gillette, Better Fr., Feb. 1910, 23.
 Gossard, Ohio B. 233, 148, 1911.
 Lochhead, Syn. Ec. Ent. 81, 1914.
 O'Kane, Inj. Ins. 233, 1914.
 Oskamp, Ind. B. 164, 763, 1913.
 Price, Va. C. 7, 49, 1909.
 Sanderson, Ins. Pests, 447, 1912.
 Sherman, N. C. Dept. Agr. B. 34, 21, '13.
 Slingerland & Crosby, Man. Fr. Ins. 388, 1914.
- Tylonota bimaculatus**
 Swaine, Ont. Ent. Soc. R. 43, 88, 1913.
- Tymnes tricolor**
 Felt, N. Y. St. Mus. Mem. 8, 515, 1906.
- Typhlocyba bifasciata**
 Parrott, J. Ec. Ent. II, 79, 1909.
- Typhlocyba comes**
 Alderman, Giddings & Rumsey, W. Va. C. 7, 35, 1913.
 Baldwin, Ind. Ent. R. 5, 110, 1912.
 Baldwin, Farm. Guide, Feb. 28, 1914, 17.
 Dean & Peairs, Kans. Agr. Educ. VI, 2, 97, 1913.
 Ehrhorn, Cal. Hort. Comm. Bien. R. 2, 229, 1907.
 Essig, Ventura Co. (Cal.) Hort. Comm. B. 2, 1911.
 Essig, Cal. Hort. B. II, 1-2, 42, 1913.
 Gibson, Ont. Ent. Soc. R. 36, 114, 1906.
 Gibson, Ont. Ent. Soc. R. 41, 16, 1911.
 Gladwin, Rur. N. Y., 1913, 569.
 Gossard, Ohio B. 233, 133, 1911.
 Hartzell, N. Y. St. B. 331, 568, 1910.

***Typhlocyba comes* (Cont'd)**

- Hartzell, N. Y. St. B. 344, 30, 1912.
 Hartzell, Pr. N. Y. Fr. Grow. Assoc.,
 10 Meet., 153, 1911.
 Hartzell, Pr. N. Y. Fr. Grow. Assoc.,
 11 Meet., 88, 1912.
 Hartzell, N. Y. St. B. 359, 1913.
 Hartzell & Hall, N. Y. St. B. (Pop.
 Ed.) 359, 1913.
 Herrick, Rur. N. Y., 1911, 980.
 Howard, U. S. R. Ent., 1912, 26.
 Jarvis, Conn. Storrs B. 56, 254, 1909.
 Johannsen, Me. B. 177, 29, 1910.
 Johnson, U. S. B. 97, 1, 1911.
 Johnson, Pa. Dept. Agr. R. 17, 589,
 1911.
 Johnson, U. S. B. 116, 1, 1912.
 Lochhead, Syn. Ec. Ent., 47, 1914.
 Morrill, S. W. Stockm., May 29, 1914, 10.
 O'Kane, Inj. Ins. 311, 1914.
 Parrott, Pr. West. N. Y. Hort. Soc., 58
 Meet., 132, 1913.
 Quaintance & Shear, U. S. F. B. 284,
 19, 1907.
 Quayle, Cal. B. 198, 177, 1908.
 Quayle, J. Ec. Ent. I, 182, 1908.
 Quayle, Pac. Rur. Press, LXXXV, 400,
 1913.
 Quayle, Cal. Cult., XLII, 556, 1914.
 Quayle, Pac. Rur. Press, LXXXVII,
 522, 1914.
 Roberts, Cal. Fr. Grow., June 20, '14, 4.
 Sanderson, Ins. Pests, 520, 1912.
 Sill, Pa. Dept. Agr. B. 217, 51, 1912.
 Slingerland & Crosby, N. Y. C. B. 252,
 343, 1908.
 Slingerland & Crosby, Man. Fr. Ins.
 408, 1914.
 Slingerland, Herrick & Crosby, N. Y.
 C. B. 283, 472, 1910.
 Somes, Mo. Fr. Exp. Sta. Bien. R.,
 1913-1914, 14.
 Surface, Pa. D. A. Zoöl. V, 12, 383, '08.
 Surface, Pa. D. A. Zoöl. I, 4, 183, 1911.
 Symons, U. S. B. 60, 83, 1906.
 ——— Pac. Rur. Press, LXXXVII, 170,
 1914.
 ——— U. S. Y. B., 1906, 513.
 ——— U. S. Y. B., 1908, 576.

Typhlocyba comes* var. *octonotata

- Hartzell, N. Y. St. B. 344, 35, 1912.
Typhlocyba mali*, see *Empoasca

Typhlocyba rosae

- Felt, N. Y. St. Mus. Mem. 8, 191, 1905.
 Felt, C. Gentl., 1909, 616.
 Felt, N. Y. R. 25, 90, 1910.
 Felt, J. Ec. Ent. IV, 413, 1911.
 Felt, N. Y. R. 27, 65, 1912.
 Gibson, Ont. Ent. Soc. R. 36, 114, 1906.
 Parrott, J. Ec. Ent. II, 79, 1909.
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 Treherne, Pr. Ent. Soc. B. C., 4, 32, '14.
 Wilson & Childs, Oreg. Bien. Crop
 Pest R. f. 1913-1914, 189.
 ——— C. Gentl., 1906, 944.
 ——— U. S. Y. B., 1906, 516.
 ——— U. S. Y. B., 1908, 578.

***Typhlocyba* sp.**

- Gillette, Colo. B. 114, 23, 1906.

Typhlocyba tricineta

- Hartzell, N. Y. St. B. 344, 35, 1912.
 Johnson, U. S. D. A. B. 19, 10, 1914.

Typhlocyba vittifex

- Bethune, Ont. Agr. Coll. B. 158, 32, '07.
 Douglass, Ind. Ent. R. 3, 196, 1910.

Typhoea fumata

- Caesar, Ont. Ent. Soc. R. 43, 83, 1913.

Typhoid fly*, see *Musca domestica***Typocerus velutinus***

- Felt, N. Y. St. Mus. Mem. 8, 436,
 1906.

Typophorus aterrimus

- Gossard, Ohio B. 233, 150, 1911.

Typophorus canellus

- Baldwin, Ind. Ent. R. 5, 124, 1912.
 Britton, Conn. R. 4, 216, 1905.
 Felt, N. Y. St. Mus. Mem. 8, 537, 1906.
 Fulton, Wright & Gregg, Pa. B. 110, 38,
 1911.
 Gossard, Ohio B. 233, 149, 1911.
 Nicholson, Okla. B. 69, 17, 1905.
 O'Kane, Inj. Ins. 263, 1914.
 Sanderson, Ins. Pests, 448, 1912.
 Slingerland & Crosby, Man. Fr. Ins.
 391, 1914.
 Swenk, Nebr. Hort. Soc., 1909, 83.
 ——— U. S. Y. B., 1907, 552.
 ——— U. S. Y. B., 1908, 574.

Typophorus quadrinotatus

- Dean & Peairs, Kans. Agr. Educ. VI,
 2, 125, 1913.
 Smith, N. J. B. 225, 31, 1909.

Typophorus sexnotatus

- Gossard, Ohio B. 233, 150, 1911.

Tyroglyphidae

Banks, Tech. B. 13, U. S. Bur. Ent., '06.

Tyroglyphus americanus

Chittenden & Marsh, U. S. B. 109, 32, 1912.

Quayle, Cal. B. 234, 502, 1912.

Tyroglyphus armipes

Burgess, U. S. B. 101, 70, 1912.

Tyroglyphus breviceps

Hunter & Pierce, U. S. B. 114, 137, 1912.

Pierce, U. S. B. 73, 30, 41, 1908.

Pierce, U. S. B. 100, 47, 1912.

Tucker, J. Ec. Ent. II, 377, 1909.

Tyroglyphus cocciphilus

Brooks, W. Va. B. 119, 339, 1909.

Marlatt, U. S. B. 71, 137, 1907.

Rumsey, W. Va. R. f. 1909-1910, 78.

Tyroglyphus lintneri

Ewing, Oreg. B. 121, 64, 1914.

Popenoe, U. S. C. 155, 4, 1912.

Tyroglyphus longior

Felt, C. Gentl., 1910, 1025.

Jarvis, Can. Ent., 1906, 240.

Surface, Pa. D. A. Zool. III, 1, 24, 1913.

Tyroglyphus malus

Quaintance & Sasser, U. S. C. 121, 9, 1910.

Smith, Nebr. Hort. Soc. B. 20, 8, 1908.

Stene, R. I. Bd. Agr. R. 21, 44, 1906.

Tyroglyphus siro

Surface, Pa. D. A. Zool. III, 1, 24, 1913.

Tyroglyphus sp.

Popenoe, Kans. Farm., June 14, '06, 628.

Whitmarsh, Ohio B. 253, 147, 1912.

Tyroglyphus spp.

Herrick, Household Ins. 281, 1914.

Lochhead, Can. Ent., 1906, 69.

Two-spray calendar

Hungerford, J. Ec. Ent. VI, 165, 1913.

Ufeus plicatus

Cooley, Mont. B. 88, 86, 1912.

Uliota dubius

Felt, N. Y. St. Mus. Mem. 8, 490, 1906.

Ulus crassus

— Cal. Cult., XXIV, 365, 1905.

Universal insecticide and scale killer

Smith, N. J. R., 1904, 643, 1905.

Upis ceramoides

Felt, N. Y. St. Mus. Mem. 8, 497, 1906.

Uranotes melinus

Barre & Conradi, S. C. B. 141, 32, 1909.

Chittenden, Ins. Inj. Veg., 113, 1907.

Conradi, U. S. B. 60, 67, 1906.

Fields, Okla. R. 15, 53, 1905.

Hinds, U. S. B. 59, 29, 1909.

Howard, U. S. R. Ent., 1906, 6.

Hunter, U. S. F. B. 512, 40, 1912.

O'Kane, Inj. Ins. 213, 1914.

Sanderson, U. S. F. B. 223, 17, 1905.

Sanderson, U. S. B. 57, 40, 1906.

Sanderson, Ins. Pests, 248, 319, 1912.

Watson, Fla. R., 1913, LXX.

— U. S. Y. B., 1906, 509.

— U. S. Y. B., 1907, 542.

— U. S. Y. B., 1908, 567.

Urocetus abdominalis

Felt, N. Y. St. Mus. Mem. 8, 668, 1906.

Urocetus albicornis

Felt, N. Y. St. Mus. Mem. 8, 667, 1906.

Urogaster canarsiae

Johnson & Hammar, U. S. B. 116, 47, 1912.

Urogaster tischeriae

Quaintance, U. S. B. 68, 29, 1907.

Urographis fasciatus

Felt, N. Y. St. Mus. Mem. 8, 434, 1906.

Uropoda agitans

Newell, J. Ec. Ent., I, 263, 1908.

Uropoda provocans

Newell, J. Ec. Ent. I, 263, 1908.

Urosigalphus anthonomi

Hunter & Pierce, U. S. B. 114, 142, 1912.

Pierce, U. S. B. 73, 29, 38, 1908.

Urosigalphus armatus

Brooks, W. Va. B. 128, 181, 1910.

Brooks, W. Va. R. f. 1909-1910, 189.

Chittenden, U. S. C. 99, 6, 1908.

Urosigalphus robustus

Hunter & Hinds, U. S. B. 51, 146, 1905.

Urosigalphus schwarzi

Hunter & Pierce, U. S. B. 114, 142, 1912.

Pierce, U. S. B. 73, 29, 1908.

Urosigalphus sp. on boll weevil

Hunter & Pierce, U. S. B. 114, 142, 1912.

Pierce, U. S. B. 100, 53, 1912.

Vacuum oil

Smith, N. J. R., 1908, 364.

Smith, N. J. R., 1909, 368.

Vagabond crambus, see Crambus vulgigagellus

Valley grasshopper, see Oedaleonotus enigma

- Vanessa antiopa**, *see* **Euvanessa**
Vanessa atalanta
 Hitchings, Me. Comm. Agr. R., 1907, 215, 1908.
Vanessa californica
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